SONY

3-072-317-**14** (1)

Digital Video Camera Recorder Digital 8
Video Camera Recorder Hi8

Operating Instructions

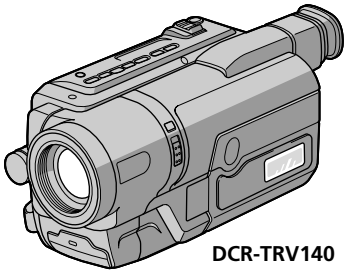
Before operating the unit, please read this manual thoroughly, and retain it for future reference.

Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____ **-TRV** _____ Model No. **AC-** _____

Serial No. _____ Serial No. _____



DCR-TRV140

Digital Handycam

Handycam Vision™

InfoLITHIUM™ M SERIES

i™

Digital 8

DCR-TRV140 Digital 8

video Hi8

CCD-TRV107/TRV108/TRV308/TRV408/TRV608 Hi8

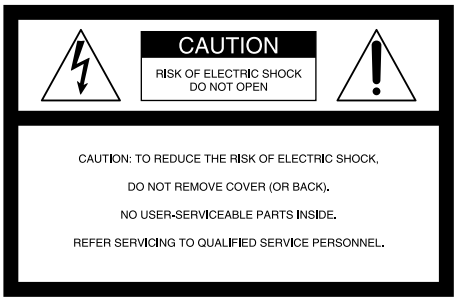
©2002 Sony Corporation

Welcome!

Congratulations on your purchase of this Sony Digital Handycam camcorder/Handycam Vision™ . With your Digital Handycam/Handycam Vision™, you can capture life's precious moments with superior picture and sound quality. Your Digital Handycam/Handycam Vision™ is loaded with advanced features, but at the same time it is very easy to use. You will soon be producing home video that you can enjoy for years to come.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Never expose the battery pack to temperatures above 60°C (140°F) such as in a car parked in the sun or under direct sunlight.

For the customers in the U.S.A. and Canada

RECYCLING LITHIUM-ION BATTERIES

Lithium-Ion batteries are recyclable.
You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.

For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit http://www.rbrc.org/.

Caution: Do not handle damaged or leaking Lithium-Ion batteries.

For the customers in the U.S.A.

If you have any questions about this product, you may call:
Sony Customer Information Center 1-800-222-SONY (7669)
The number below is for the FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name:	SONY
Model No.:	DCR-TRV140
Responsible Party:	Sony Electronics lnc.
Address:	680 Kinderkamack Road, Oradell, NJ, 07649 U.S.A.
Telephone No.:	201-930-6972

This device complies with Part15 of the FCC Rules. Operation is subject to the following two conditions.: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

Trade Name:	SONY
Model No.:	CCD-TRV608
Responsible Party:	Sony Electronics lnc.
Address:	680 Kinderkamack Road, Oradell, NJ, 07649 U.S.A.
Telephone No.:	201-930-6972

This device complies with Part15 of the FCC Rules. Operation is subject to the following two conditions.: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For the customers in CANADA

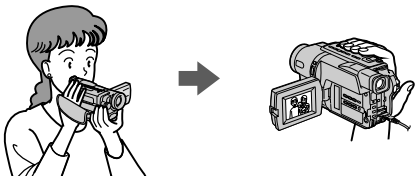
CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

Main Features

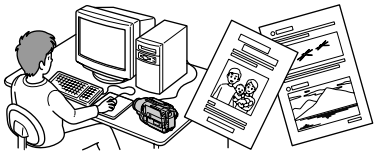
Taking moving images, and playing them back

- Recording a picture (p. 23)
- Recording a still image on a tape (p. 40)*1)
- Playing back a tape (p. 33)



Capturing images on your computer (CCD-TRV608, DCR-TRV140 only)

- Viewing images recorded on a tape (p. 97)
- Viewing images live from your camcorder (p. 97)



Others

Functions to adjust exposure in the recording mode

- NightShot (p. 29)/ Super NightShot (p. 29)*1)/ Color Slow Shutter (p. 29)*1)
- BACK LIGHT (p. 29)
- PROGRAM AE (p. 50)
- Built-in light (p. 61)*3)
- Manual exposure (p. 52)

Functions to give images more impact

- Digital zoom (p. 26)
  The default settings is set to **OFF**. (To zoom greater than 20×, select the digital zoom power in **D ZOOM** in the menu settings.)
- FADER (p. 43)
- Tape photo recording (p. 40)*1)
- Picture effect (p. 64)
- Digital effect (p. 65)*1)
- TITLE (p. 57)

Function to give a natural appearance to your recordings

- Manual focus (p. 53)

Functions to use in editing in the recording mode

- Wide mode (p. 41)
- Date and time (p. 19)*4)
- ORC [MENU] (p. 109)*4)

Functions to use after recording

- Data code (p. 35)*1)
- Zero set memory (p. 67, 96)*1)
- Digital program editing (p. 83)*1)
- Easy Dubbing (p. 75)*4)
- Tape PB ZOOM (p. 66)*1)

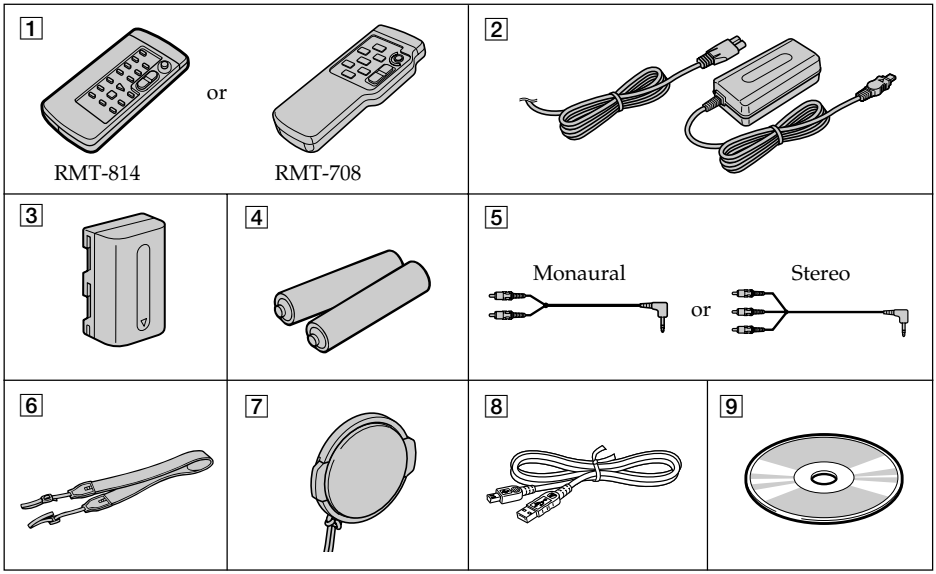
Function to make transition smooth

- END SEARCH (p. 32)

*1) DCR-TRV140 only
*2) CCD-TRV608, DCR-TRV140 only
*3) CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only
*4) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Checking supplied accessories

Make sure that the following accessories are supplied with your camcorder.



1 **Wireless Remote Commander** (1) (p. 141)*1)

RMT-708: CCD-TRV107/TRV408

RMT-814: DCR-TRV140

2 **AC-L10A/L10B/L10C AC power adaptor** (1), **Power cord** (1) (p. 14)

3 **NP-FM30 battery pack** (1) (p. 15, 16, 17)

4 **Size AA (R6) battery for Remote Commander** (2) (p. 141)*1)

5 **A/V connecting cable** (1) (p. 38, 72, 73)

Stereo: DCR-TRV140

Monaural: CCD-TRV107/TRV108/TRV308/TRV408/TRV608

6 **Shoulder strap** (1) (p. 136)

7 **Lens cap** (1) (p. 23)

8 **USB Cable** (1) (p. 97)*2)

9 **CD-ROM (SPVD-008 USB Driver)** (1) (p. 98)*2)

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, storage media, etc.

*1) CCD-TRV107/TRV408, DCR-TRV140 only

*2) CCD-TRV608, DCR-TRV140 only

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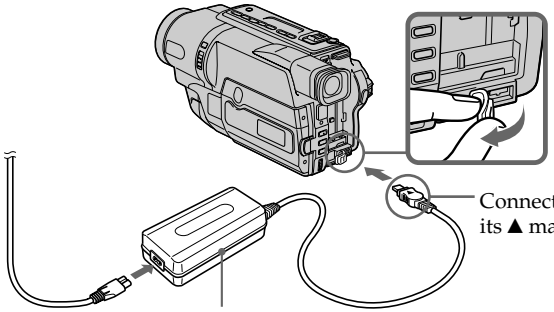
Quick Start Guide

This chapter introduces you to the basic features of your camcorder. See the page in parentheses "( )" for more information.

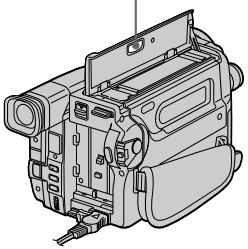
1 Connecting the power cord (p. 18)

Use the battery pack when using your camcorder outdoors (p. 13).

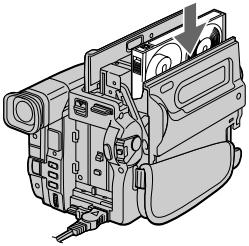


2 Inserting a cassette (p. 21)

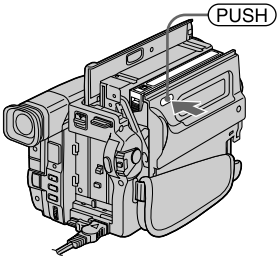
❶ Open the lid of the cassette compartment, and press ⏏EJECT. The cassette compartment opens automatically.



❷ Insert a cassette into the cassette compartment with its window facing out and the write-protect tab on the cassette up.

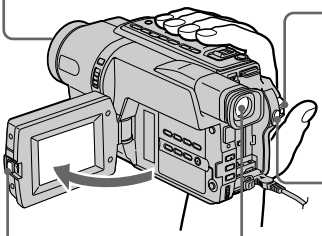


❸ Close the cassette compartment by pressing the PUSH mark on the cassette compartment. The cassette compartment automatically goes down.
Close the lid of the cassette compartment.

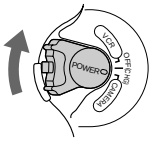


3 Recording a picture (p. 23)

1 Remove the lens cap.

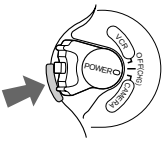


2 Set the POWER switch to CAMERA while pressing the small green button.



3 Open the LCD panel while pressing OPEN. The picture appears on the LCD screen.

4 Press START/STOP. Your camcorder starts recording. To stop recording, press START/STOP again.

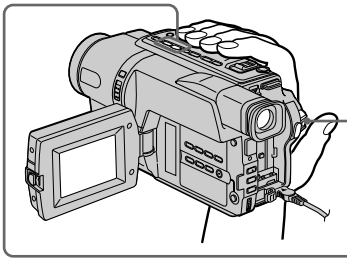


Viewfinder

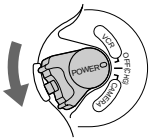
When the LCD panel is closed, use the viewfinder placing your eye against its eyecup.
The picture in the viewfinder is black and white.
Adjust the viewfinder lens to your eyesight (p. 27).

When you purchase your camcorder, the clock setting is set to off. If you want to record the date and time for a picture, set the clock setting before recording (p. 19).

4 Monitoring the playback picture on the LCD screen (p. 33)



1 Set the POWER switch to VCR*1)/ PLAYER*2) while pressing the small green button.

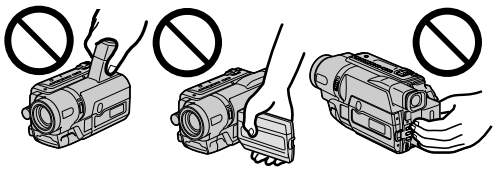


2 Press ◄◄ to rewind the tape.

3 Press ► to start playback.

Note

Do not pick up your camcorder by the viewfinder, the LCD panel, or the battery pack.



*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Using this manual

The instructions in this manual are for the six models listed in the table below (p. 11). Before you start reading this manual and operating your camcorder, check the model number by looking at the bottom of your camcorder. The DCR-TRV140 is the model used for illustration purposes. Otherwise, the model name is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "DCR-TRV140 only."

As you read through this manual, buttons and settings on your camcorder are shown in capital letters.

e.g. Set the POWER switch to CAMERA.

When you carry out an operation, you can hear a beep sound to indicate that the operation is being carried out.

Before using your camcorder (DCR-TRV140 only)

With your digital camcorder, we recommend using Hi8 Hi8/Digital8 video cassettes. Your camcorder records and plays back pictures only in the Digital8 system. You cannot play back tapes recorded in the Hi8 Hi8 /standard 8 8 (analog) system.

Note on TV color systems

TV color systems differ from country to country. To view your recordings on a TV, you need an NTSC system-based TV.

Copyright precautions (DCR-TRV140 only)

Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Types of differences

Model name	CCD-					DCR-
	TRV107	TRV108	TRV308	TRV408	TRV608	TRV140
System	Hi8	Hi8	Hi8	Hi8	Hi8	Digital8
Playback	Hi8/8	Hi8/8	Hi8/8	Hi8/8	Hi8/8	Digital8
Digital Zoom	450×	460×	460×	560×	560×	560×
LCD screen	6.2 cm (2.5 type)	6.2 cm (2.5 type)	6.2 cm (2.5 type)	6.2 cm (2.5 type)	7.5 cm (3 type)	6.2 cm (2.5 type)
Buit–in light	●	—	●	●	●	●
Remote sensor	●	—	—	●	—	●
SteadyShot	—	—	●	●	●	●
USB Streaming	—	—	—	—	●	●
VF B.L. (Viewfinder backlight)	●	—	●	●	●	●
Date and time	●	●	●	●	●	—
DNR (Digital Noise Reduction)	●	●	●	●	●	—
Easy Dubbing	●	●	●	●	●	—
ORC (Optimizing the Recording Condition)	●	●	●	●	●	—
TBC (Time Base Corrector)	●	●	●	●	●	—
Data Code	—	—	—	—	—	●
Digital effect	—	—	—	—	—	●
Digital program editing	—	—	—	—	—	●
DV IN/OUT jack	—	—	—	—	—	●
Frame recording	—	—	—	—	—	●
Hifi SOUND	—	—	—	—	—	●
Interval recording	—	—	—	—	—	●
Super NightShot/ Color Slow Shutter	—	—	—	—	—	●
Tape Photo recording	—	—	—	—	—	●
Zero set memory	—	—	—	—	—	●

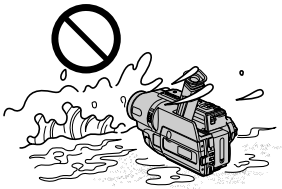
● Provided
— Not provided

Precautions on camcorder care

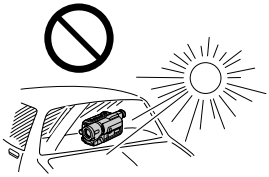
Lens and LCD screen/finder (on mounted models only)

- **The LCD screen and the finder are manufactured using extremely high-precision technology so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue or green in color) that constantly appear on the LCD screen and the finder. These points are normal in the manufacturing process and do not affect the recording in any way.**
- Do not let your camcorder get wet. Keep your camcorder away from rain and sea water. Letting your camcorder get wet may cause your camcorder to malfunction. Sometimes this malfunction cannot be repaired **[a]**.
- Never leave your camcorder exposed to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight **[b]**.
- Be careful when placing the camera near a window or outdoors. Exposing the LCD screen, the finder or the lens to direct sunlight for long periods may cause malfunctions **[c]**.
- Do not directly shoot the sun. Doing so might cause your camcorder to malfunction. Take pictures of the sun in low light conditions such as dusk **[d]**.

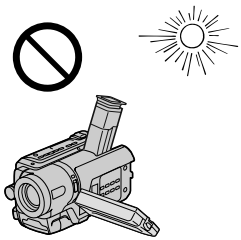
[a]



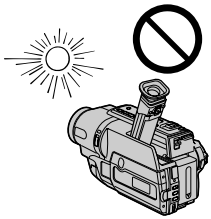
[b]



[c]



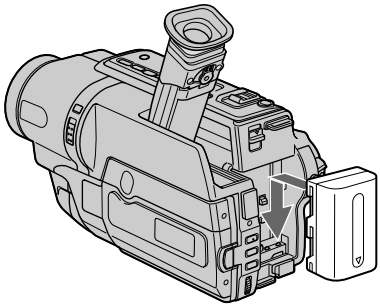
[d]



Step 1 Preparing the power supply

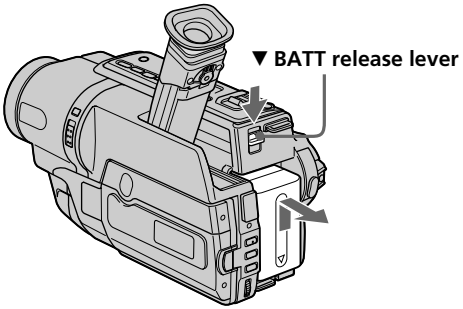
Installing the battery pack

Slide the battery pack down until it clicks.



To remove the battery pack

Slide the battery pack out in the direction of the arrow while pressing ▼ BATT down.

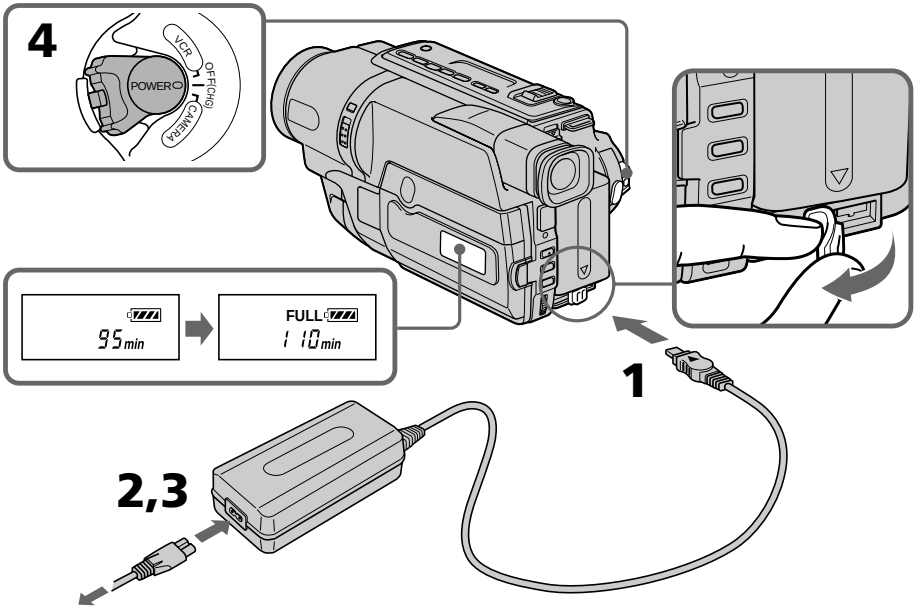


Charging the battery pack

Use the battery pack after charging it for your camcorder.
Your camcorder operates only with the "InfoLITHIUM" battery pack (M series).
See page 124 for details of the "InfoLITHIUM" battery pack.

(1) Open the DC IN jack cover and connect the AC power adaptor supplied with your camcorder to the DC IN jack with the plug's ▲ mark facing up.
(2) Connect the power cord to the AC power adaptor.
(3) Connect the power cord to a wall outlet.
(4) Set the POWER switch to OFF (CHG). Charging begins. The remaining battery time is indicated in minutes on the display window.

When the remaining battery indicator changes to , **normal charge** is completed. To fully charge the battery **(full charge)**, leave the battery pack attached for about one hour after normal charge is completed until "FULL" appears in the display window. Fully charging the battery allows you to use the battery longer than usual.



The number in the illustration of the display window may differ from that on your camcorder.

After charging the battery pack

Disconnect the AC power adaptor from the DC IN jack on your camcorder.

Note

Prevent metallic objects from coming into contact with the metal parts of the DC plug of the AC power adaptor. This may cause a short-circuit, damaging the AC power adaptor.

Remaining battery time indicator
The remaining battery time you record with the viewfinder is displayed.
The remaining battery time indicator in the display window roughly indicates the recording time with the viewfinder.

Until your camcorder calculates the actual remaining battery time
"– – – – min" appears in the display window.

While charging the battery pack, no indicator appears or the indicator flashes in the display window in the following cases:
– The AC power adapter is disconnected.
– The battery pack is not installed properly.
– Something is wrong with the battery pack.

We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F.)

If the power goes off although the battery remaining indicator indicates that the battery pack has enough power to operate
Charge the battery pack fully again so that the indication on the battery remaining indicator is correct.

Charging time

Battery pack	Full charge (normal charge)
NP-FM30 (supplied)	145 (85)
NP-FM50	150 (90)
NP-FM70	240 (180)
NP-QM71	260 (200)
NP-FM90	330 (270)
NP-FM91/QM91	360 (300)

Approximate number of minutes to charge an empty battery pack at 25°C (77°F)

Recording time

CCD-TRV107/TRV108/TRV308/TRV408

Battery pack	Recording with the viewfinder		Recording with the LCD screen	
	Continuous*	Typical**	Continuous*	Typical**
NP-FM30 (supplied)	165	90	120	65
NP-FM50	265	145	195	105
NP-FM70	540	295	400	220
NP-QM71	640	350	465	255
NP-FM90	820	450	600	330
NP-FM91/QM91	955	525	695	380

CCD-TRV608

Battery pack	Recording with the viewfinder		Recording with the LCD screen	
	Continuous*	Typical**	Continuous*	Typical**
NP-FM30 (supplied)	165	90	100	55
NP-FM50	265	145	160	90
NP-FM70	540	295	335	185
NP-QM71	640	350	390	215
NP-FM90	820	450	505	275
NP-FM91/QM91	955	525	585	320

DCR-TRV140

Battery pack	Recording with the viewfinder		Recording with the LCD screen	
	Continuous*	Typical**	Continuous*	Typical**
NP-FM30 (supplied)	110	60	85	45
NP-FM50	180	100	140	75
NP-FM70	370	205	295	160
NP-QM71	430	235	340	185
NP-FM90	560	310	450	245
NP-FM91/QM91	645	355	520	285

Approximate number of minutes when you use a fully charged battery pack

* Approximate continuous recording time at 25°C (77°F). The battery life will be shorter if you use your camcorder in a cold environment.

** Approximate number of minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

Playing time

CCD-TRV107/TRV108/TRV308/TRV408

Battery pack	Playing time on LCD screen	Playing time with LCD closed
NP-FM30 (supplied)	120	175
NP-FM50	195	280
NP-FM70	400	570
NP-QM71	465	675
NP-FM90	600	865
NP-FM91/QM91	695	1010

CCD-TRV608

Battery pack	Playing time on LCD screen	Playing time with LCD closed
NP-FM30 (supplied)	100	175
NP-FM50	160	280
NP-FM70	335	570
NP-QM71	390	675
NP-FM90	505	865
NP-FM91/QM91	585	1010

DCR-TRV140

Battery pack	Playing time on LCD screen	Playing time with LCD closed
NP-FM30 (supplied)	85	115
NP-FM50	140	185
NP-FM70	295	385
NP-QM71	340	445
NP-FM90	450	580
NP-FM91/QM91	520	670

Approximate number of minutes when you use a fully charged battery pack

Approximate cotinuous playing time at 25°C (77°F). The battery life will be shorter if you use your camcorder in a cold environment.
The recording and playing time of a normally charged battery are about 90% of those of a fully charged battery.

What is the "InfoLITHIUM"?

The "InfoLITHIUM" is a lithium ion battery pack which can exchange data such as battery consumption with compatible electronic equipment. This unit is compatible with the "InfoLITHIUM" battery pack (M series). Your camcorder operates only with the "InfoLITHIUM" battery pack. "InfoLITHIUM" M series battery packs have the InfoLITHIUM M SERIES mark.
"InfoLITHIUM" is a trademark of Sony Corporation.

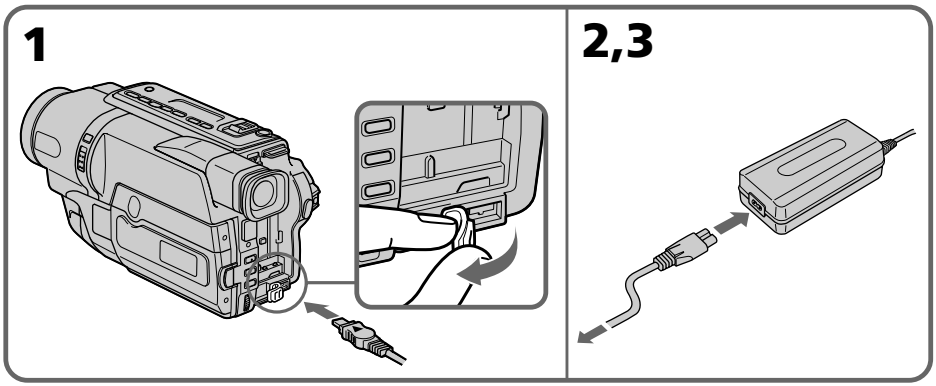
Connecting to a wall outlet

When you use your camcorder for a long time, we recommend that you power it from a wall outlet using the AC power adaptor.

(1) Open the DC IN jack cover, and connect the AC power adaptor to the DC IN jack on your camcorder with the plug's ▲ mark facing up.

(2) Connect the power cord to the AC power adaptor.

(3) Connect the power cord to a wall outlet.



PRECAUTION

The set is not disconnected from the AC power source (wall outlet) as long as it is connected to the wall outlet, even if the set itself has been turned off.

Notes

- The AC power adaptor can supply power even if the battery pack is attached to your camcorder.
- The DC IN jack has "source priority". This means that the battery pack cannot supply any power if the power cord is connected to the DC IN jack, even when the power cord is not plugged into a wall outlet.
- Place the AC power adaptor near a wall outlet.
  While using the AC power adaptor, if any trouble occurs with this unit, disconnect the plug from the wall outlet as soon as possible to cut off the power.

Using a car battery

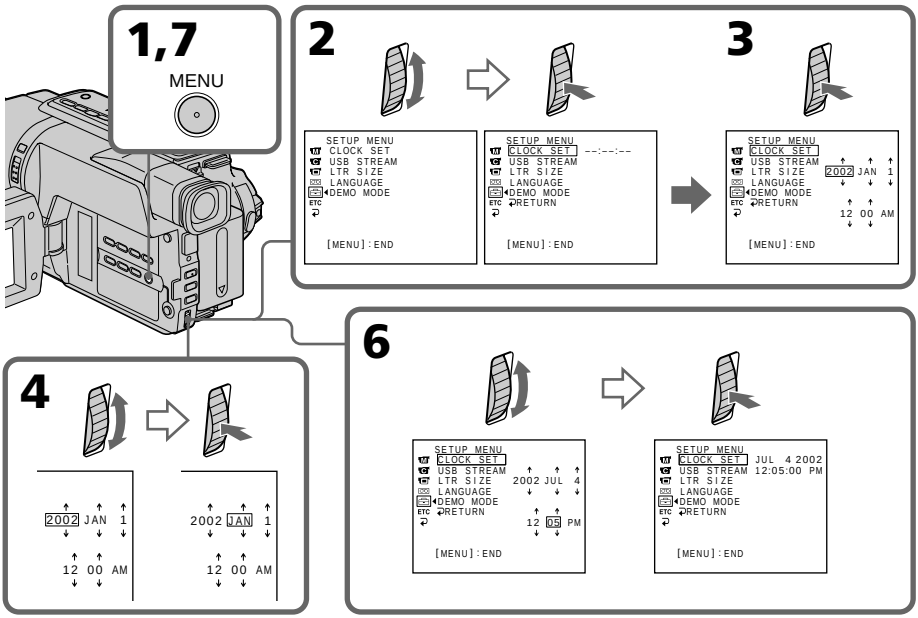
Use Sony DC Adaptor/Charger (optional). Refer to the operating instructions of the DC Adaptor/Charger for further information.

Step 2 Setting the date and time

Set the date and time settings when you use your camcorder for the first time. "CLOCK SET" will be displayed each time when you set the power switch to CAMERA unless you set the date and time settings.

If you do not use your camcorder for about 6 months, the date and time settings may be released (bars may appear) because the built-in rechargeable battery in your camcorder will have been discharged.
First, set the year, then the month, the day, the hour and then the minute.

(1) While your camcorder is in CAMERA mode, press MENU to display the menu.
(2) Turn the SEL/PUSH EXEC dial to select [camera], then press the dial.
(3) Turn the SEL/PUSH EXEC dial to select CLOCK SET, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to adjust the desired year, then press the dial.
(5) Set the month, day and hour by turning the SEL/PUSH EXEC dial and pressing the dial.
(6) Set the minute by turning the SEL/PUSH EXEC dial and pressing the dial by the time signal. The clock starts to operate.
(7) Press MENU to make the menu disappear. The time indicator appears.



The year changes as follows:

1995 ⟵ · · · · ⟶ 2002 ⟵ · · · · ⟶ 2079

To check the preset date and time (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

Press DATE to display the date indicator.
Press TIME to display the time indicator.
Press DATE (or TIME) and then press TIME (or DATE) to simultaneously display the date and time indicator.
Press DATE and/or TIME again. The date and/or time indicator disappears.

Auto date function

When you use your camcorder for the first time, turn it on and set the date and time to your local time before you start recording (p. 19). The date is automatically recorded for 10 seconds after you start recording **(Auto date function)**. This function works only once a day.

Note on the time indicator

The internal clock of your camcorder operates on a 12-hour cycle.
- 12:00 AM stands for midnight.
- 12:00 PM stands for noon.

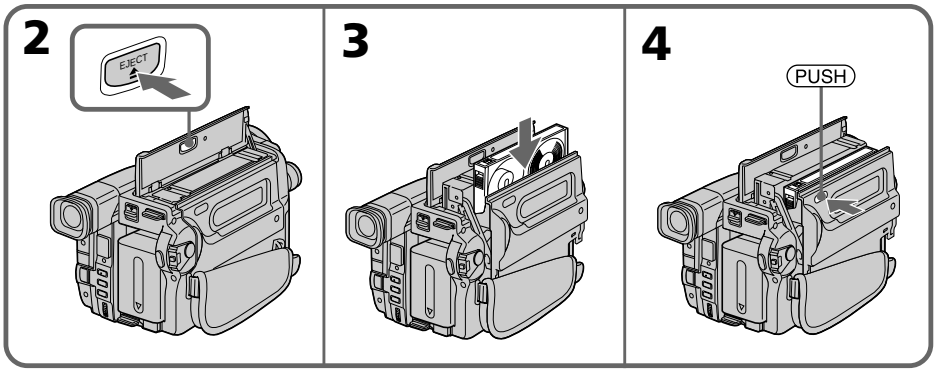
Note on the auto date function (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

You can change the AUTO DATE setting by selecting ON or OFF in the menu settings.
The auto date function automatically displays the date once a day.
However, the date may automatically appear more than once a day if:
– you set the date and time.
– you eject and insert the tape again.
– you stop recording within 10 seconds.
– you set AUTO DATE to OFF once and set it back to ON in the menu settings.

Step 3 Inserting a cassette

We recommend using Hi8 Hi8/Digital8 video cassettes.*1)
When you want to record in the Hi8 Hi8 system, use Hi8 Hi8 video cassettes.*2)

(1) Prepare the power supply (p. 13).
(2) Open the lid of the cassette compartment, and press ⏏ EJECT. The cassette compartment opens automatically.
(3) Insert a cassette into the cassette compartment with its window facing out and the write-protect tab on the cassette up.
(4) Close the cassette compartment by pressing the PUSH mark on the cassette compartment. The cassette compartment automatically goes down.
(5) Close the lid of the cassette compartment.

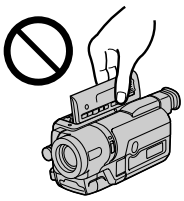


To eject a cassette

Follow the procedure above, and eject the cassette in step **3**.

Notes

- Do not press the cassette compartment down. Doing so may cause a malfunction.
- Your camcorder records pictures in the Digital8 system.*1)
- The recording time when you use your camcorder is half of the indicated time on Hi8 Hi8/Digital8 tape. If you select the LP mode in the menu settings, the recording time is the 3/4 of the indicated time on Hi8 Hi8/Digital8 tape.*1)
- If you use standard 8 mm 8 tape, be sure to play back the tape on this camcorder. Mosaic noise may appear when you play back standard 8 mm 8 tape on other camcorders (including other DCR-TRV140.)*1)
- The cassette compartment may not be closed when you press any part of the cassette compartment other than the PUSH mark.
- Do not pick up your camcorder by the lid of the cassette compartment.

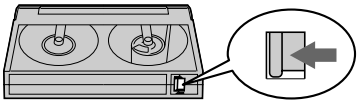


*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Step 3 Inserting a cassette

To prevent accidental erasure

Slide the write-protect tab on the cassette to expose the red mark.



Recording a picture

Your camcorder automatically focuses for you.

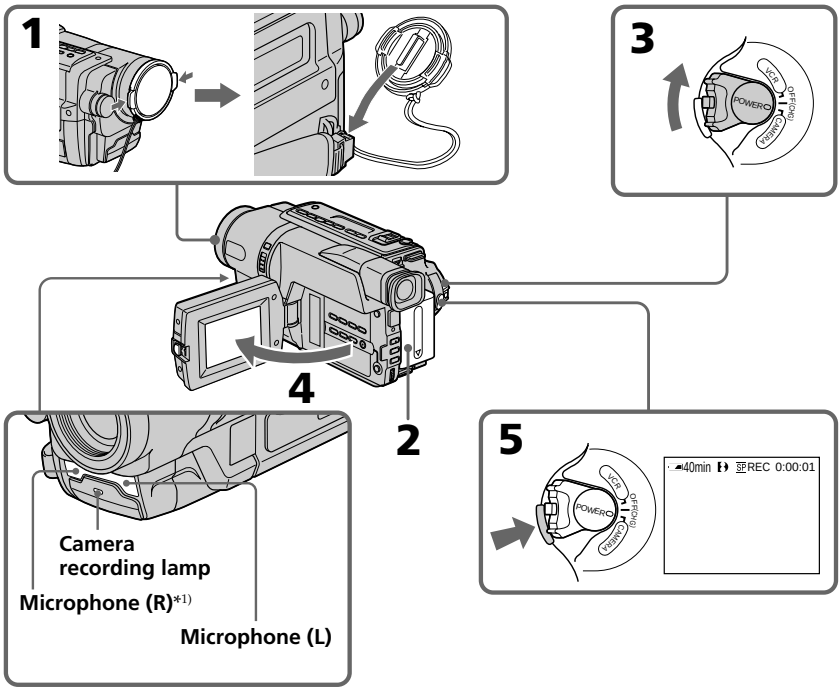
(1) Remove the lens cap by pressing both knobs on its sides and attach the lens cap to the grip strap.

(2) Install the power source and insert a cassette. See “Step 1” to “Step 3” for more information (p. 13 to 22).

(3) Set the POWER switch to CAMERA while pressing the small green button. Your camcorder is set to the standby mode.

(4) Open the LCD panel while pressing OPEN. The viewfinder automatically turns off.

(5) Press START/STOP. Your camcorder starts recording. The REC indicator appears. The camera recording lamp located on the front of your camcorder lights up. To stop recording, press START/STOP again.
The camera recording lamp lights up in the viewfinder when you record with the viewfinder.



Notes

- Fasten the grip strap firmly.
- Do not touch the built-in microphone during recording.

Note on Recording mode

Your camcorder records and plays back in the SP (standard play) mode and in the LP (long play) mode. Select SP or LP in the menu settings (p. 109). In the LP mode, you can record 1.5 times*1)/twice*2) as long as in the SP mode. When you record a tape in the LP mode on your camcorder, we recommend that you play back the tape on your camcorder.

To enable smooth transition
You can make the transition between the last scene you recorded and the next scene smooth as long as you do not eject the cassette even if you turn off your camcorder. When you change the battery pack, set the POWER switch to OFF (CHG).

If you leave your camcorder in the standby mode for 3 minutes*1)/5 minutes*2) while the cassette is inserted
Your camcorder automatically turns off. This is to save battery power and to prevent battery and tape wear. To resume the standby mode for recording, set the POWER switch to OFF (CHG) once, then turn it to CAMERA, or press START/STOP without changing the POWER switch again to start recording. If your camcorder is in the standby mode, with no cassette inserted, it does not turn off automatically.

When you record in the SP and LP modes on one tape or you record some scenes in the LP mode
The playback picture may be distorted.
The time code may not be written properly between scenes.*1)

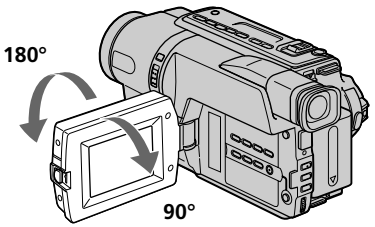
Recording date and time (DCR-TRV140 only)
The recording date and time are not displayed while recording. However, they are recorded automatically onto the tape. To display the recording date and time, press DATA CODE on the Remote Commander during playback.

To set the counter to 0:00:00 (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)
Press COUNTER RESET (p. 139).

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Adjusting the LCD screen

The LCD panel moves about 90 degrees to the viewfinder side and about 180 degrees to the lens side.
If you turn the LCD panel over so that it faces the other way, the ☺ indicator appears on the screen **(Mirror mode)**.



When closing the LCD panel, set it vertically until it clicks, and swing it into the camcorder body.

Note
When using the LCD screen except in the mirror mode, the viewfinder automatically turns off.

When you use the LCD screen outdoors in direct sunlight
The LCD screen may be difficult to see. If this happens, we recommend that you record with the viewfinder.

When you adjust angles of the LCD panel
Be sure to open the LCD panel up to 90 degrees.

Picture in the mirror mode
The picture on the LCD screen is a mirror-image. However, the picture will be normal when recorded.

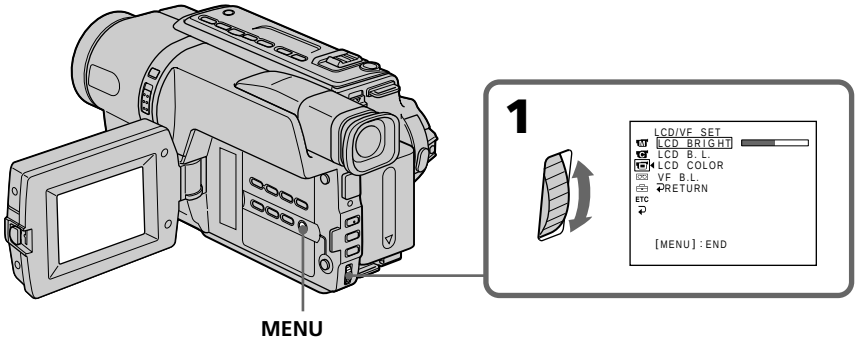
During recording in the mirror mode
- You cannot operate the ZERO SET MEMORY on the Remote Commander.*1)
- DATE and TIME on your camcorder do not work.*2)

Indicators in the mirror mode
- The STBY indicator appears as ❚❚● and REC as ●. Some of other indicators appear mirror-reversed and others are not displayed.
- The date appears mirror-reversed when the auto date function is working. However, the date will be normal when recorded.*2)

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Adjusting the brightness of the LCD screen

(1) In CAMERA mode, select LCD BRIGHT in 📷 in the menu settings (p. 109).
(2) Turn the SEL/PUSH EXEC dial to adjust the brightness of the LCD screen.



LCD screen backlight
You can adjust the brightness of the backlight. Select LCD B.L. in the menu settings (p. 109).

Even if you adjust the LCD screen backlight
The recorded picture will not be affected.

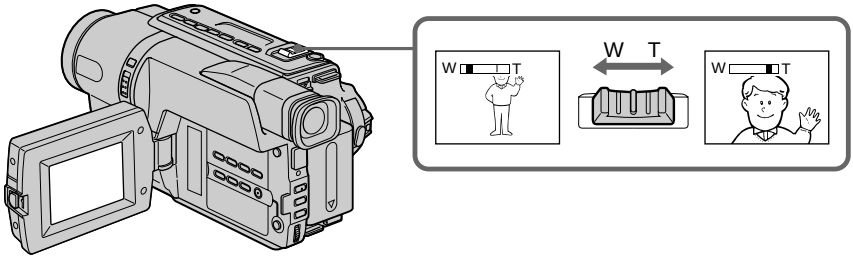
After recording

(1) Set the POWER switch to OFF (CHG).
(2) Close the LCD panel.
(3) Eject the cassette.
(4) Attach the lens cap.

After using your camcorder (CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only)
Remove the battery pack from your camcorder to avoid turning on the built-in light accidentally.

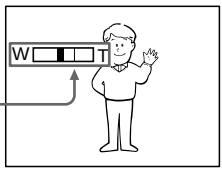
Using the zoom feature

Move the power zoom lever a little for a slower zoom. Move it further for a faster zoom. Using the zoom function sparingly results in better-looking recordings.
"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)



To use zoom grater than 20×
Zoom greater than 20× is performed digitally. To activate digital zoom, select the digital zoom power in D ZOOM in the menu settings. The digital zoom function is set to OFF as a default setting (p. 106).
The picture quality deteriorates as the picture is processed digitally.

The right side of the bar shows the digital zooming zone.
The digital zooming zone appears when you select the digital zoom power in D ZOOM in the menu settings.



Notes on digital zoom

- Digital zoom starts to function when zoom exceeds 20×.
- The picture quality deteriorates as you go toward the "T" side.

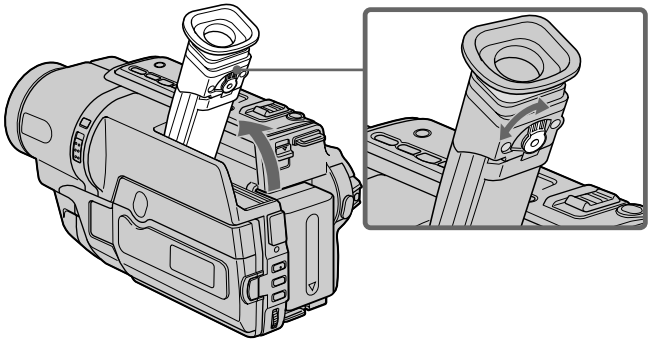
When you shoot close to a subject

If you cannot get a sharp focus, move the power zoom lever to the "W" side until the focus is sharp. You can shoot a subject that is at least about 80 cm (about 2 feet 5/8 in.) away from the lens surface in the telephoto position, or about 1 cm (about 1/2 in.) away in the wide-angle position.

To record pictures with the viewfinder – Adjusting the viewfinder

If you record pictures with the LCD panel closed, check the picture with the viewfinder. Adjust the viewfinder lens to your eyesight so that the indicators in the viewfinder come into sharp focus.

Lift up the viewfinder and move the viewfinder lens adjustment lever.

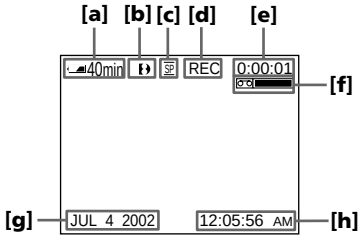


Viewfinder backlight (CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only)

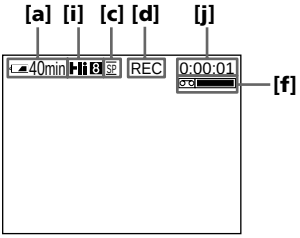
You can change the brightness of the backlight. Select VF B.L. in the menu settings (p. 109).

Indicators displayed in the recording mode

The indicators are not recorded on tape.



DCR-TRV140



CCD-TRV107/TRV108/TRV308/TRV408/TRV608

[a] : Remaining battery time indicator
[b] : Format indicator
[c] : Recording mode indicator/
Mirror mode indicator
[d] : STBY/REC indicator
[e] : Time code indicator/
Tape photo recording indicator
[f] : Remaining tape indicator
This appears after you start to record for a while.*1)
This appears after you insert a cassette and record or play back for a while.*2)
[g] : Date indicator
This is displayed for five seconds after the POWER switch is set to CAMERA.
[h] : Time indicator
This is displayed for five seconds after the POWER switch is set to CAMERA.
[i] : Hi8 format indicator
This appears while playing back or recording in Hi8 format.
[j] : Tape counter indicator

Remaining battery time indicator

The remaining battery time indicator indicates the approximate recording time. The indicator may not be correct, depending on the conditions in which you are recording. When you close the LCD panel and open it again, it takes about 1 minute for the correct remaining battery time in minutes to be displayed.

Time code (DCR-TRV140 only)

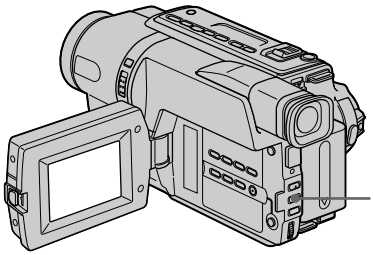
The time code indicates the recording or playback time, “0:00:00” (hours:minutes: seconds) in CAMERA mode and “0:00:00:00” (hours:minutes:seconds:frames) in VCR mode. You cannot rewrite only the time code.
You cannot reset the time code.

*1) DCR-TR140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Shooting backlit subjects – BACK LIGHT

When you shoot a subject with the light source behind the subject or a subject with a light background, use the backlight function.

Press BACK LIGHT in CAMERA mode.
The ◪ indicator appears on the screen.
To cancel, press BACK LIGHT again.

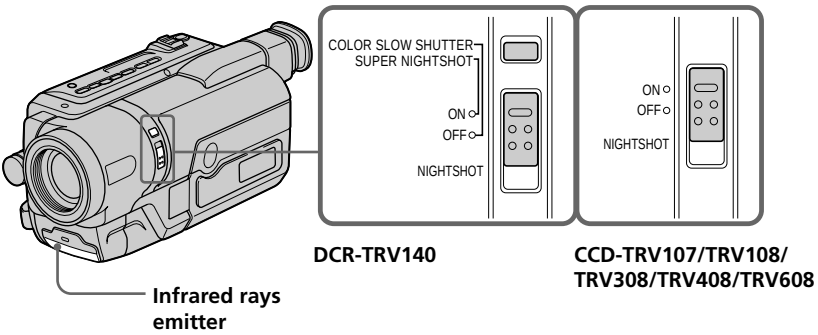


If you press EXPOSURE when shooting backlit subjects
The backlight function will be canceled.

Shooting in the dark – NightShot/Super NightShot (DCR-TRV140 only)/Color Slow Shutter (DCR-TRV140 only)

The NightShot function enables you to shoot a subject in a dark place. For example, you can satisfactorily record the environment of nocturnal animals for observation when you use this function.

While your camcorder is in CAMERA mode, slide NIGHTSHOT to ON.
⊙ and "NIGHTSHOT" indicators flash on the screen.
To cancel the NightShot function, slide NIGHTSHOT to OFF.



DCR-TRV140

CCD-TRV107/TRV108/ TRV308/TRV408/TRV608

Using the Super NightShot (DCR-TRV140 only)

The Super NightShot mode makes subjects up to 16 times brighter than those recorded in the NightShot mode.

(1) Slide NIGHTSHOT to ON in CAMERA mode. and "NIGHTSHOT" indicators flash on the screen.
(2) Press SUPER NIGHTSHOT. S and "SUPER NIGHTSHOT" indicators flash on the screen.
To cancel the Super NightShot mode, press SUPER NIGHTSHOT again.

Using the Color Slow Shutter (DCR-TRV140 only)

The Color Slow Shutter enables you to record color images in a dark place.

(1) Slide NIGHTSHOT to OFF in CAMERA mode.
(2) Press COLOR SLOW SHUTTER.
and " COLOR SLOW SHUTTER" indicators flash on the screen.
To cancel the Color Slow Shutter, press COLOR SLOW SHUTTER again.

Using the NightShot Light

The picture will be clearer with the NightShot Light on. To enable the NightShot Light, set N.S.LIGHT to ON in the menu settings (p. 107).

Notes

- Do not use the NightShot function in bright places (ex. outdoors in the daytime). This may cause your camcorder to malfunction.
- Color Slow Shutter cannot be used in places of absolute (0 lux) darkness.
- When you keep NIGHTSHOT setting to ON in normal recording, the picture may be recorded in incorrect or unnatural colors.
- If focusing is difficult with the autofocus mode when using the NightShot function, focus manually.

While using the NightShot function, you cannot use the following functions:
– Exposure
– PROGRAM AE

While using the Super NightShot function or the Color Slow Shutter function, you cannot use the following functions (DCR-TRV140 only):
– Fader
– Digital effect
– Exposure
– PROGRAM AE

Shutter speed in the Super NightShot or Color Slow Shutter function (DCR-TRV140 only)
The shutter speed will be automatically changed depending on the brightness of the background. The motion of the picture will be slow.

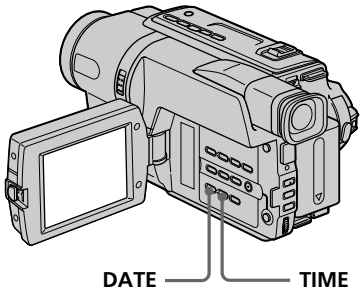
NightShot Light
NightShot Light rays are infrared and so are invisible. The maximum shooting distance using the NightShot Light is about 3 m (10 feet).

Superimposing the date and time on pictures (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

You can record the date and/or time displayed on the screen superimposed on the picture.
Carry out the following operations in CAMERA mode.

Press DATE to record the date.
Press TIME to record the time.
Press DATE (or TIME), then press TIME (or DATE) to record the date and time.

Press DATE and/or TIME again. The date and/or time indicator disappears.



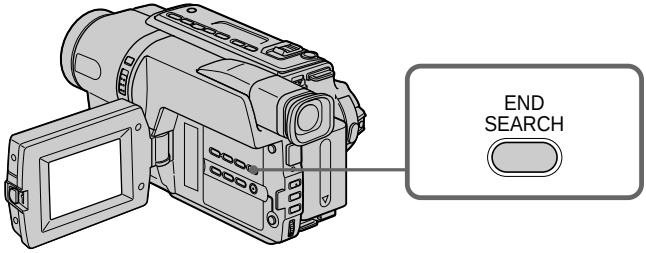
When you purchase your camcorder, the clock setting is set to off. Set the date and time to your local time before using (p. 19).

Note
The date and time indicators recorded manually cannot be deleted.

If you do not record the date and time in the picture
Record the date and time in the black screen as the background for about 10 seconds, then erase the date and time indicators before starting actual recording.

Checking the recording – END SEARCH

You can use this button to record a picture from the last recorded scene successively.



You can go to the end of the recorded section.

Press END SEARCH in CAMERA mode.
The last 5 seconds of the recorded section are played back and returns to the standby mode. You can monitor the sound from the speaker.

Notes

- If you start recording after using the end search function, occasionally, the transition between the last scene you recorded and the next scene may not be smooth.
- Once you eject the cassette after you have recorded on the tape, the end search function does not work.

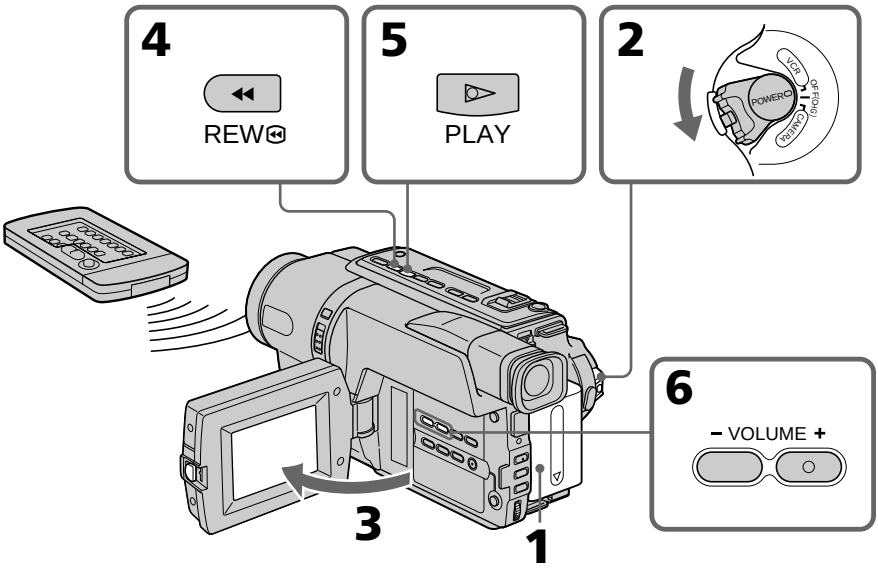
If a tape has a blank portion in the recorded portions (DCR-TRV140 only)
The end search function may not work correctly.

Playing back a tape

You can playback tapes recorded in the Digital8 system.*1)
You can playback tapes recorded in the Hi8 /Standard 8 mm (analog) system.*2)
You can monitor the playback picture on the LCD screen. If you close the LCD panel, you can monitor the playback picture in the viewfinder.

(1) Install the power source and insert the recorded tape.
(2) Set the POWER switch to VCR*1)/PLAYER*2) while pressing the small green button.
(3) Open the LCD panel while pressing OPEN.
(4) Press ◄◄ to rewind the tape.
(5) Press ► to start playback.
(6) To adjust the volume, press either of the two VOLUME buttons. The speaker on your camcorder is silent when the LCD panel is closed.

You can control playback using the Remote Commander supplied with your camcorder.*3)



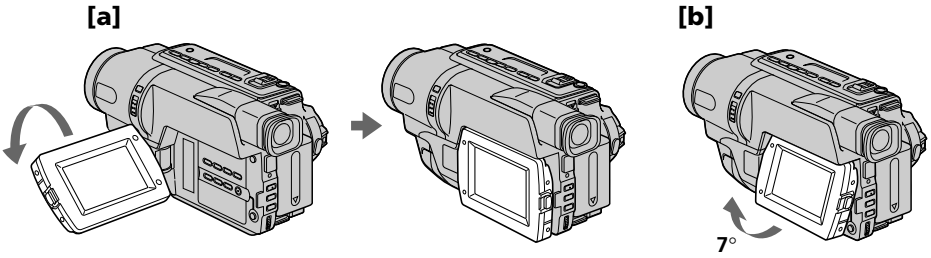
To stop playback

Press ■.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*3) CCD-TRV107/TRV408, DCR-TRV140 only

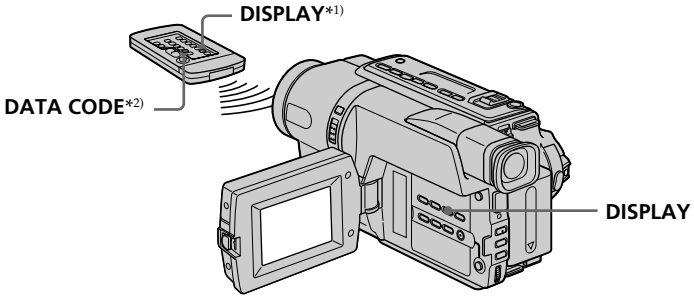
When monitoring on the LCD screen

You can turn the LCD panel over and move it back to the camcorder body with the LCD screen facing out **[a]**. You can adjust the angle of the LCD panel by lifting the LCD panel up by 7 degrees **[b]**.



To display the screen indicators – Display function

Press DISPLAY on your camcorder or the Remote Commander*1) supplied with your camcorder.
The indicators appear on the screen.
To make the indicators disappear, press DISPLAY again.



*1) CCD-TRV107/TRV408, DCR-TRV140 only
*2) DCR-TRV140 only

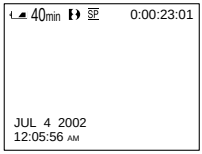
Using the Data Code function (DCR-TRV140 only)

Your camcorder automatically records not only images on the tape but also the recording data (date/time or various settings when recorded) **(Data code)**.

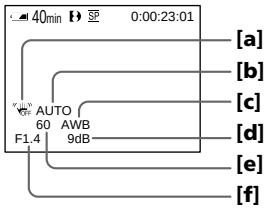
Press DATA CODE on the Remote Commander in the playback mode

The display changes as follows:
date/time → various settings (SteadyShot, exposure AUTO/MANUAL, white balance, gain, shutter speed, aperture value) → no indicator

Date/time



Various settings



[a] : SteadyShot OFF indicator
[b] : Exposure mode indicator
[c] : White balance indicator
[d] : Gain indicator
[e] : Shutter speed indicator
[f] : Aperture value

To not display the recording date

Set DATA CODE to DATE in the menu settings (p. 110).
The display changes as follows:
date/time → no indicator

Recording data (DCR-TRV140 only)

Recording data is your camcorder's information when you have recorded. In the recording mode, the recording data will not be displayed.

When you use data code function, bars (--- -- ---- and --:--:--) appear if: (DCR-TRV140 only)

– A blank section of the tape is being played back.
– The tape is unreadable due to tape damage or noise.
– The tape was recorded by a camcorder without the date and time set.

Data code (DCR-TRV140 only)

When you connect your camcorder to the TV, the data code appears on the TV screen.

Remaining battery time indicator during playback (DCR-TRV140 only)

The indicator indicates the approximate continuous playback time. The indicator may not be correct, depending on the conditions in which you are playing back. When you close the LCD panel and open it again, it takes about 1 minute for the correct remaining battery time to be displayed.

Various playback modes

To operate video control buttons, set the POWER switch to VCR*1)/PLAYER*2).

To view a still image (playback pause)

Press II during playback. To resume playback, press II or ►.

To advance the tape

Press ►► in the stop mode. To resume normal playback, press ►.

To rewind the tape

Press ◄◄ in the stop mode. To resume normal playback, press ►.

To change the playback direction (DCR-TRV140 only)

Press < on the Remote Commander during playback to reverse the playback direction. To resume normal playback, press ►.

To locate a scene monitoring the picture (picture search)

Keep pressing ◄◄ or ►► during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing or rewinding the tape (skip scan)

Keep pressing ◄◄ while rewinding or ►► while advancing the tape. To resume rewinding or advancing, release the button.

To view the picture at slow speed (slow playback) (CCD-TRV107/TRV408, DCR-TRV140 only)

Press I► on the Remote Commander during playback.
For slow playback in the reverse direction, press <, then press I► on the Remote Commander.*1) To resume normal playback, press ►.

To view the picture at double speed (DCR-TRV140 only)

Press ×2 on the Remote Commander during playback. For double speed playback in the reverse direction, press <, then press ×2 on the Remote Commander. To resume normal playback, press ►.

To view the picture frame-by-frame (DCR-TRV140 only)

Press II► on the Remote Commander in the playback pause mode. For frame-by-frame playback in the reverse direction, press ◄II. To resume normal playback, press ►.

To search the last scene recorded (END SEARCH)

Press END SEARCH in the stop mode. The last 5 seconds of the recorded section are played back and the playback stops.

In the various playback modes

- Sound is muted.
- The previous recording may appear as a mosaic image when playing back.*1)

When the playback pause mode lasts for 3 minutes*1)/5 minutes*2)

Your camcorder automatically enters the stop mode. To resume playback, press ►.

Note on the slow playback mode (DCR-TRV140 only)

The slow playback can be performed smoothly on your camcorder; however, this function does not work for an output image from the i.LINK DV IN/OUT jack.

If slow playback lasts for about 1 minute (CCD-TRV107/TRV408 only)

Your camcorder automatically returns to normal speed.

When you play back a tape recorded in the LP mode (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

Noise may appear during the playback pause mode, slow playback*3) or picture search.

When you play back a tape in reverse (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

Horizontal noise may appear at the center or top and bottom of the screen. This is not a malfunction.

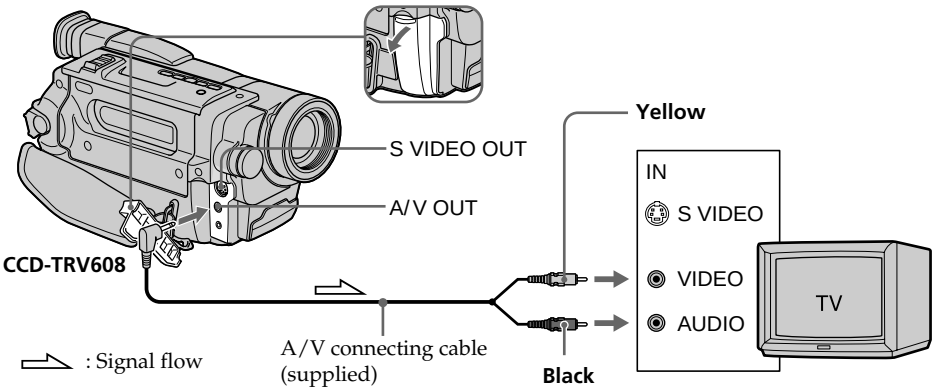
*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*3) CCD-TRV107/TRV408 only

Viewing the recording on TV

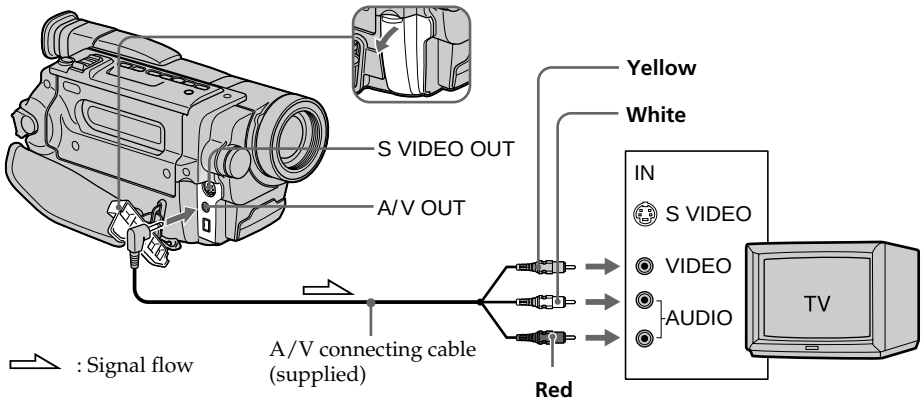
Connect your camcorder to your TV with the A/V connecting cable supplied with your camcorder to watch the playback picture on the TV screen. You can operate the playback control buttons in the same way as when you monitor playback pictures on the LCD screen. We recommend that you power your camcorder from a wall outlet using the AC power adaptor when monitoring the playback picture on the TV screen (p. 18). Refer to the operating instructions of your TV.

Open the jack cover. Connect your camcorder to the TV using the A/V connecting cable. Then, set the TV/VCR selector on the TV to VCR.

CCD-TRV107/TRV108/TRV308/TRV408/TRV608



DCR-TRV140



If your TV is already connected to a VCR

Connect your camcorder to the LINE IN input on the VCR by using the A/V connecting cable supplied with your camcorder. Set the input selector on the VCR to LINE.

If your TV is a monaural type (DCR-TRV140 only)

Connect the yellow plug of the A/V connecting cable to the video input jack and the white or the red plug to the audio input jack on the TV. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

To connect to a TV without Video/Audio input jacks (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

Use an NTSC system RFU adaptor (optional.)
Refer to the operating instructions of your TV and the RFU adaptor.

If your TV is a stereo type (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

Connect the audio plug of the A/V connecting cable supplied to the left (white) input jack of your TV.

If your TV has an S video jack

Connect using an S video cable (optional) to obtain optimum quality screen images. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.
Connect an S video cable (optional) to the S video jacks on both your camcorder and the TV.

To display the screen indicators on TV

Set DISPLAY to V-OUT/LCD in the menu settings (p. 112). Then press DISPLAY on your camcorder. To turn off the screen indicators, press DISPLAY on your camcorder again.

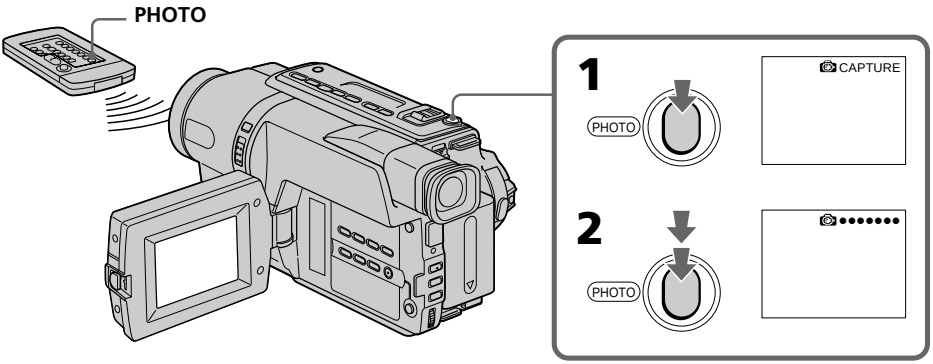
Recording a still image on a tape – Tape Photo recording

– DCR-TRV140 only

You can record a still image like a photograph. This mode is useful when you want to record an image such as a photograph.
You can record about 510 images in the SP mode and about 765 images in the LP mode on a tape which can record for 60 minutes in the SP mode.

(1) In the standby mode, keep pressing PHOTO lightly until a still image appears.
The CAPTURE indicator appears. Recording does not start yet.
To change the still image, release PHOTO, select a still image again, and then press and hold PHOTO lightly.

(2) Press PHOTO deeper.
The still image on the screen is recorded for about seven seconds. The sound during those seven seconds is also recorded.
The still image is displayed on the screen until recording is completed.



Notes

- During the tape photo recording, you cannot change the mode or setting.
- PHOTO button does not work:
  – while the digital effect function is set or in use.
  – while the fader function is in use.
- When recording a still image, do not shake your camcorder. Mosaic noise may appear on the image.

To use the tape photo recording function using the Remote Commander

Press PHOTO on the Remote Commander. Your camcorder records an image on the screen immediately.

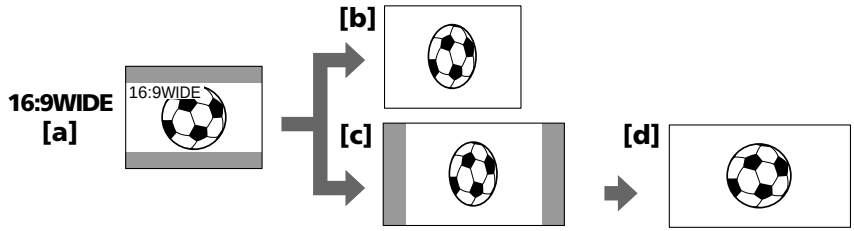
When you use the tape photo recording function during normal CAMERA recording

You cannot check an image on the screen by pressing PHOTO lightly. Press PHOTO deeper. The still image is then recorded for about 7 seconds, and your camcorder returns to the standby mode. During the 7 seconds to record, you cannot shoot another still image.

Using the wide mode

– DCR-TRV140

You can record a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9WIDE). Black bands appear on the screen during recording in the 16:9WIDE mode **[a]**. The pictures during playing back on a normal TV **[b]** or a wide-screen TV **[c]** are compressed in the widthwise direction. If you set the screen mode of a wide-screen TV to the full mode, you can watch correctly proportioned images in wide-screen format **[d]**.



In CAMERA mode, set 16:9WIDE to ON in in the menu settings (p. 107).

– CCD-TRV107/TRV108/TRV308/TRV408/TRV608

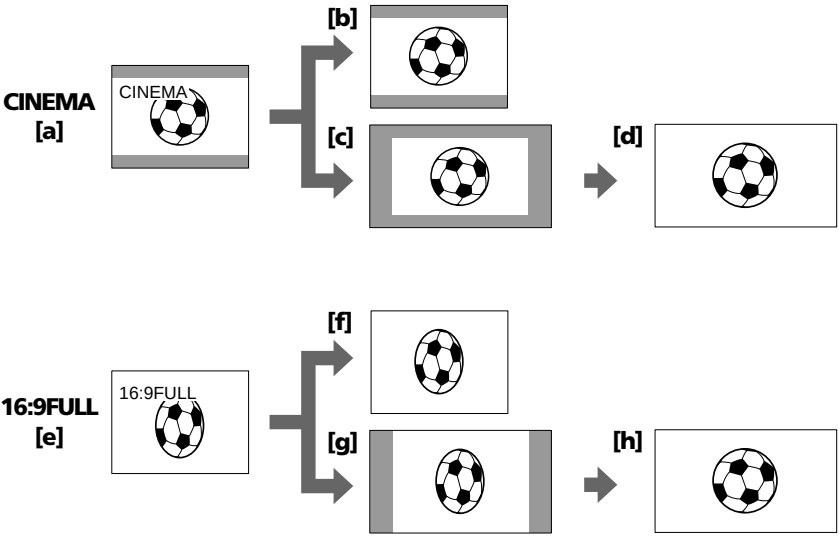
You can record a cinema-like picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9FULL). Refer to the operating instructions of your TV.

CINEMA

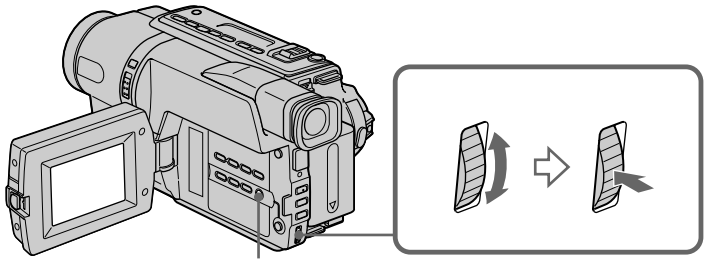
Black bands appear on the screen during recording in the CINEMA mode **[a]**, playing back on a normal TV **[b]** or a wide-screen TV **[c]**. If you set the screen mode of the wide-screen TV to the zoom mode, a picture without black bands appears **[d]**.

16:9FULL

The picture during recording in the 16:9FULL mode **[e]**, or playing back on a normal TV **[f]** or a wide-screen TV **[g]** is horizontally compressed. If you set the screen mode of a wide-screen TV to the full mode, you can watch correctly proportioned images in wide-screen format **[h]**.



In CAMERA mode, set 16:9WIDE to CINEMA or 16:9FULL in in the menu settings (p. 107).



To cancel the wide mode

Set 16:9WIDE to OFF in the menu settings.

In the wide mode, you cannot select the following functions:
– Old movie *1)
– Bounce

During recording
You cannot select or cancel the wide mode. When you cancel the wide mode, set your camcorder to the standby mode and then set 16:9WIDE to OFF in the menu settings.

Connection for a TV (DCR-TRV140 only)
Pictures recorded in the 16:9WIDE mode automatically appear on the TV screen at full size when:
– you connect your camcorder to a TV that is compatible with the video ID (ID-1/ID-2) system.
– you connect your camcorder to the S video jack on the TV.

ID-2 system (DCR-TRV140 only)
The ID-2 system sends a copyright protection signal with ID-1 signals inserted between video signals when you connect your camcorder to other equipment by the A/V connecting cable.

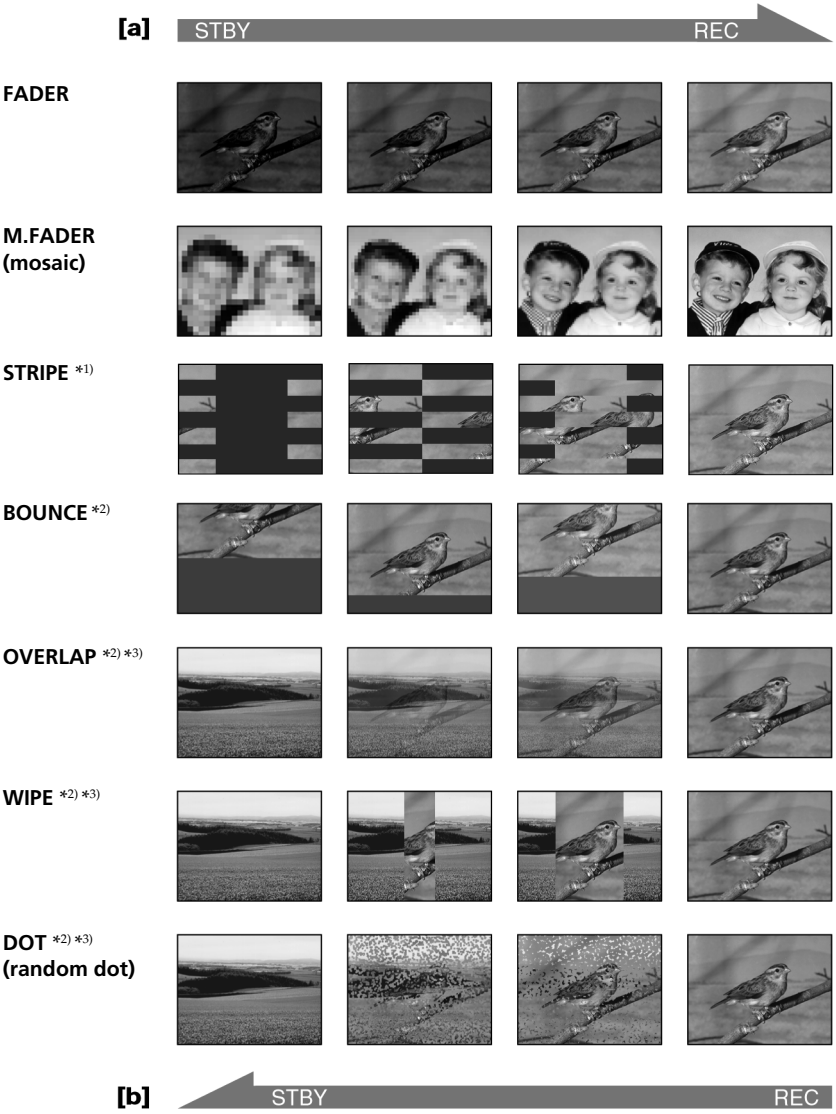
In the wide mode (CCD-TRV308/TRV408/TRV608, DCR-TRV140 only)
The SteadyShot function does not work. If you set 16:9WIDE to ON *1)/16:9 FULL*2) in the menu settings when the SteadyShot function is working, flashes and the SteadyShot function does not function.

Date or time indicator (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)
When you record in the 16:9FULL mode, the date or time indicator will be widened on wide-screen TVs.

*1) DCR-TRV140 only
*2) CCD-TRV308/TRV408/TRV608 only

Using the fader function

You can fade in or out to give your recording a professional appearance.



MONOTONE
When fading in, the picture gradually changes from black-and-white to color.
When fading out, the picture gradually changes from color to black-and-white.

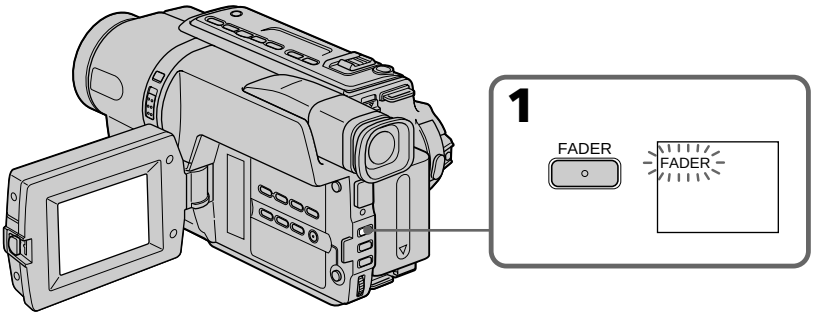
*1) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*2) Fade in only
*3) DCR-TRV140 only

(1) When fading in [a]
In the standby mode, press FADER until the desired fader indicator flashes.
When fading out [b]
In the recording mode, press FADER until the desired fader indicator flashes.
The indicator changes as follows:

→ FADER → M.FADER → STRIPE*1) → BOUNCE*2) → MONOTONE →
← no indicator ← DOT*2)*3) ← WIPE*2)*3) ← OVERLAP*2)*3) ←

The last selected fader mode is indicated first of all.

(2) Press START/STOP. The fader indicator stops flashing.
After the fade in/out is carried out, your camcorder automatically returns to the normal mode.



To cancel the fader function

Before pressing START/STOP, press FADER until the indicator disappears.

*1) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*2) Fade in only
*3) DCR-TRV140 only

Note (DCR-TRV140 only)
You cannot use the following functions while using the fader function. Also, you cannot use the fader function while using the following functions:
– Digital effect
– Super NightShot
– Color Slow Shutter
– Tape photo recording

Before operating the overlap, wipe, or dot function (DCR-TRV140 only)
Your camcorder stores the image on the tape. As the image is being stored, the indicator flashes quickly, and the image you are shooting disappears from the screen. Depending on the tape condition, the image may not be recorded clearly.

The date, time indicator and title do not fade in or fade out (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)
Erase them before operating the fader function if they are not needed.

While using the bounce function, you cannot use the following functions:
– Focus
– Zoom
– Picture effect

Note on the bounce function
The BOUNCE indicator does not appear in the following mode or functions:
– D ZOOM is activated in the menu settings
– Wide mode
– Picture effect
– PROGRAM AE

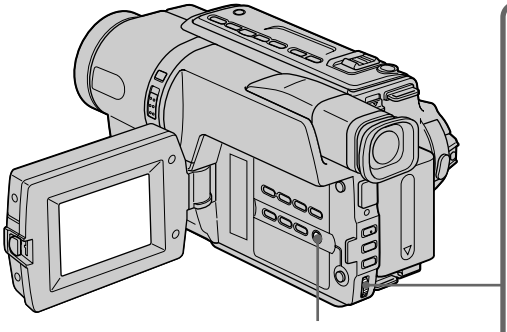
Using special effects – Picture effect

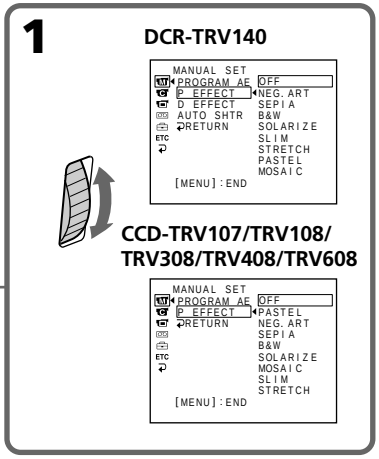
You can digitally process images to obtain special effects like those in films or on the TV.

NEG. ART [a] : The color and brightness of the image are reversed.
SEPIA : The picture is sepia.
B&W : The picture is monochrome (black-and-white).
SOLARIZE [b] : The light intensity is clearer, and the picture looks like an illustration.
SLIM [c] : The picture expands vertically.
STRETCH [d] : The picture expands horizontally.
PASTEL [e] : The contrast of the picture is emphasized, and the image looks like an animated cartoon.
MOSAIC [f] : The picture is mosaic.

[a] **[b]** **[c]** **[d]** **[e]** **[f]**

(1) In CAMERA mode, select P EFFECT in M in the menu settings (p. 106).
(2) Select the desired picture effect mode in the menu settings, then press the SEL/PUSH EXEC dial.





To cancel the picture effect function

Set P EFFECT to OFF in the menu settings.

While using the picture effect function (DCR-TRV140 only)
You cannot select OLD MOVIE with the digital effect function.

When you set the POWER switch to OFF (CHG)
Your camcorder automatically returns to the normal mode.

Using special effects – Digital effect

– DCR-TRV140 only

You can add special effects to recorded images using the various digital functions. The sound is recorded normally.

STILL
You can record a still image so that it is superimposed on a moving image.

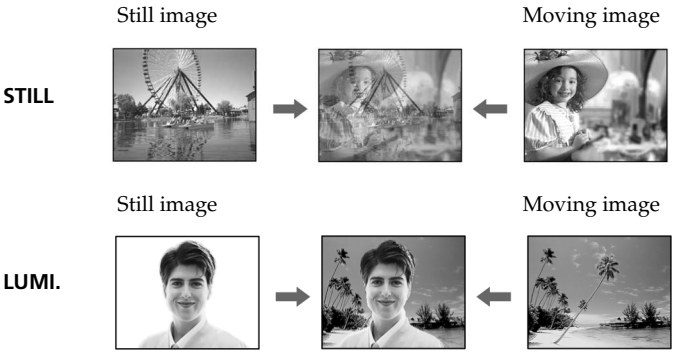
FLASH (FLASH MOTION)
You can record still images successively at constant intervals.

LUMI. (LUMINANCEKEY)
You can swap a brighter area in a still image with a moving image.

TRAIL
You can record the image so that an incidental image like a trail is left.

SLOW SHTR (SLOW SHUTTER)
You can slow down the shutter speed. The slow shutter mode is good for recording dark images more brightly.

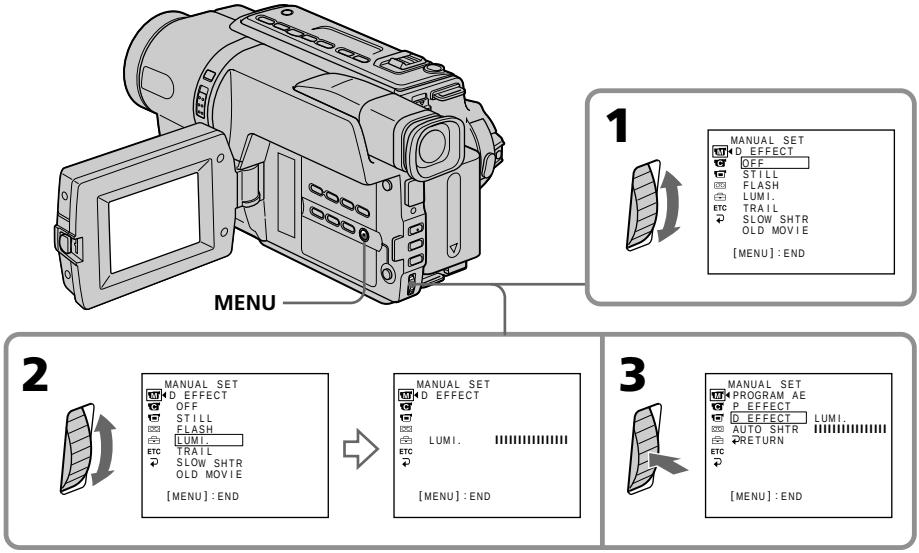
OLD MOVIE
You can add an old movie type atmosphere to images. Your camcorder automatically sets the wide mode to ON, picture effect to SEPIA, and the appropriate shutter speed.



(1) In CAMERA mode, select D EFFECT in [VM] in the menu settings (p. 106).
(2) Select the desired digital effect mode in the menu settings, then press the SEL/PUSH EXEC dial. The indicator lights up and the bars appear. In the STILL and LUMI. modes, the still image is stored in memory.
(3) Turn the SEL/PUSH EXEC dial to adjust the effect as follows:

STILL – The rate of the still image you want to superimpose on the moving image
FLASH – The interval of flash motion
LUMI. – The color scheme of the area in the still image which is to be swapped with a moving image
TRAIL – The vanishing time of the incidental image
SLOW SHTR – Shutter speed. The larger the shutter speed number, the slower the shutter speed.
OLD MOVIE – No adjustment necessary

The more bars there are on the screen, the stronger the digital effect. The bars appear in the following modes: STILL, FLASH, LUMI. and TRAIL.



To cancel the digital effect function

Set D EFFECT to OFF in the menu settings.

Notes

- The following functions do not work during digital effect function:
  – Fader
  – Tape photo recording
  – Super NightShot
  – Color Slow Shutter
- The PROGRAM AE function does not work in the slow shutter mode.
- The following functions do not work in the old movie mode:
  – Wide mode
  – Picture effect
  – PROGRAM AE

When you set the POWER switch to OFF (CHG)

The digital effect function is automatically canceled.

When recording in the slow shutter mode

Auto focus may not be effective. Focus manually using a tripod.

Shutter speed

Shutter speed number	Shutter speed
SLOW SHTR 1	1/30
SLOW SHTR 2	1/15
SLOW SHTR 3	1/8
SLOW SHTR 4	1/4

Using the PROGRAM AE function

You can select PROGRAM AE (Auto Exposure) mode to suit your specific shooting requirements.

SPOTLIGHT (Spotlight)
This mode prevents people's faces, for example, from appearing excessively white when shooting subjects lit by strong light in the theater.

PORTRAIT (Soft portrait)
This mode brings out the subject while creating a soft background for subjects such as people or flowers.

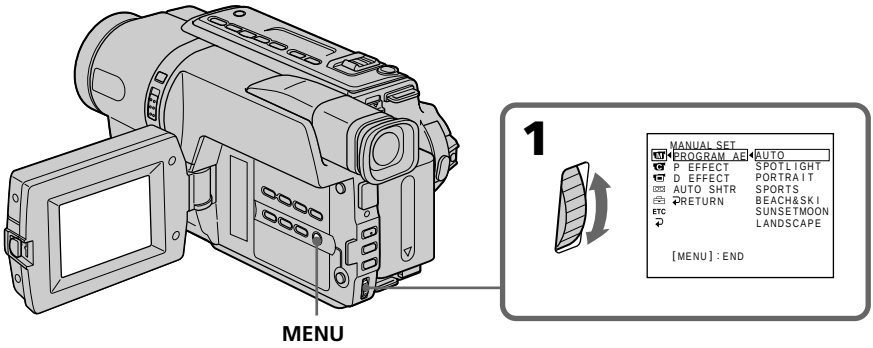
SPORTS (Sports lesson)
This mode minimizes shake on fast-moving subjects such as in tennis or golf.

BEACH&SKI (Beach & ski)
This mode prevents people's faces from appearing dark in strong light or reflected light, such as at a beach in midsummer or on a ski slope.

SUNSETMOON (Sunset & moon)
This mode allows you to maintain atmosphere when you are recording sunsets, general night views, fireworks displays and neon signs.

LANDSCAPE (Landscape)
This mode is for when you are recording distant subjects such as mountains and prevents your camcorder from focusing on glass or metal mesh in windows when you are recording a subject behind glass or a screen.

(1) In CAMERA mode, select PROGRAM AE in M in the menu settings (p. 106).
(2) Select the desired PROGRAM AE mode in the menu settings, then press the SEL/PUSH EXEC dial.



To cancel the PROGRAM AE function

Set PROGRAM AE to AUTO in the menu settings.

Notes

- In the spotlight, sports lesson and beach & ski modes, you cannot take close-ups. This is because your camcorder is set to focus only on subjects in the middle to far distance.
- In the sunset & moon and landscape modes, your camcorder is set to focus only on distant subjects.
- The following functions do not work in the PROGRAM AE mode:
  – Slow shutter*
  – Old movie*
  – Bounce
  – Color Slow Shutter*
- While setting NIGHTSHOT to ON, the PROGRAM AE function does not work. (The indicator flashes.)

Even if the PROGRAM AE function is selected

You can adjust the exposure manually.

If you are recording under a discharge tube such as a fluorescent lamp, sodium lamp or mercury lamp

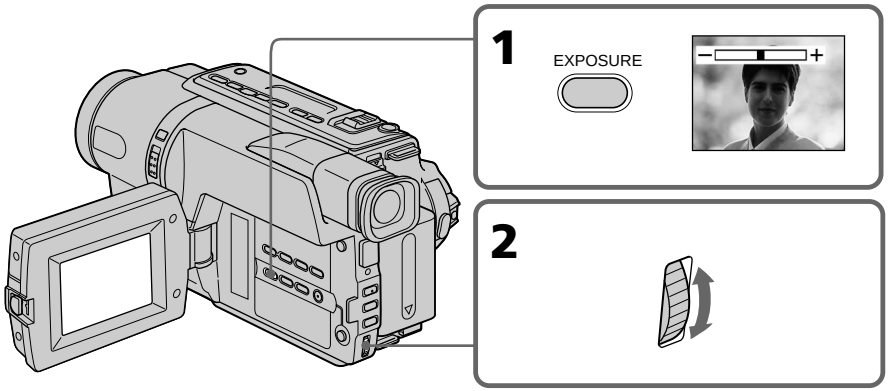
Flickering or changes in color may occur in the following modes. If this happens, turn the PROGRAM AE function off:
– Soft portrait mode
– Sports lesson mode

*DCR-TRV140 only

Adjusting the exposure manually

You can manually adjust and set the exposure.
Adjust the exposure manually in the following cases:
– The subject is backlit
– Bright subject and dark background
– To record dark pictures (e.g. night scenes) faithfully

(1) In CAMERA mode, press EXPOSURE.
The exposure indicator appears on the screen.
(2) Turn the SEL/PUSH EXEC dial to adjust the brightness.



To return to the automatic exposure mode

Press EXPOSURE.

Note

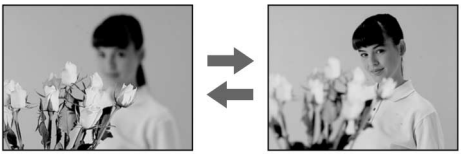
When you adjust the exposure manually, the backlight function does not work in CAMERA mode.

Your camcorder automatically returns to the automatic exposure mode:
– if you change the PROGRAM AE mode
– if you slide NIGHTSHOT to ON

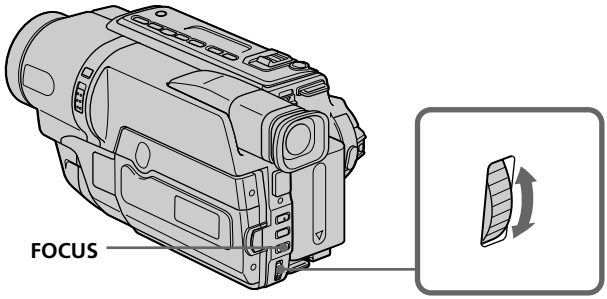
Focusing manually

You can gain better results by manually adjusting the focus in the following cases:

- The autofocus mode is not effective when shooting:
  - subjects through glass coated with water droplets.
  - horizontal stripes.
  - subjects with little contrast with backgrounds such as walls and sky.
- When you want to change the focus from a subject in the foreground to a subject in the background.
- Shooting a stationary subject when using a tripod.



(1) In CAMERA mode, press FOCUS. The ☞ indicator appears on the screen.
(2) Turn the SEL/PUSH EXEC dial to sharpen focus.



To return to the autofocus mode

Press FOCUS.

To focus precisely

Adjust the zoom by first focusing at the "T" (telephoto) position and then shooting at the "W" (wide-angle) position. This makes focusing easier.

When you shoot close to the subject

Focus at the end of the "W" (wide-angle) position.

☞ changes to the following indicators:

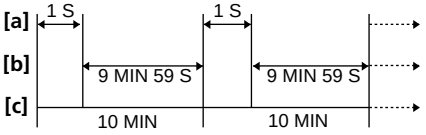
▲ when recording a distant subject.
▲ when the subject is too close to focus on.

Interval recording

– DCR-TRV140 only

You can make a time-lapse recording by setting the camcorder to automatically record and standby sequentially. You can achieve an excellent recording for flowering, emergence, etc., with this function.

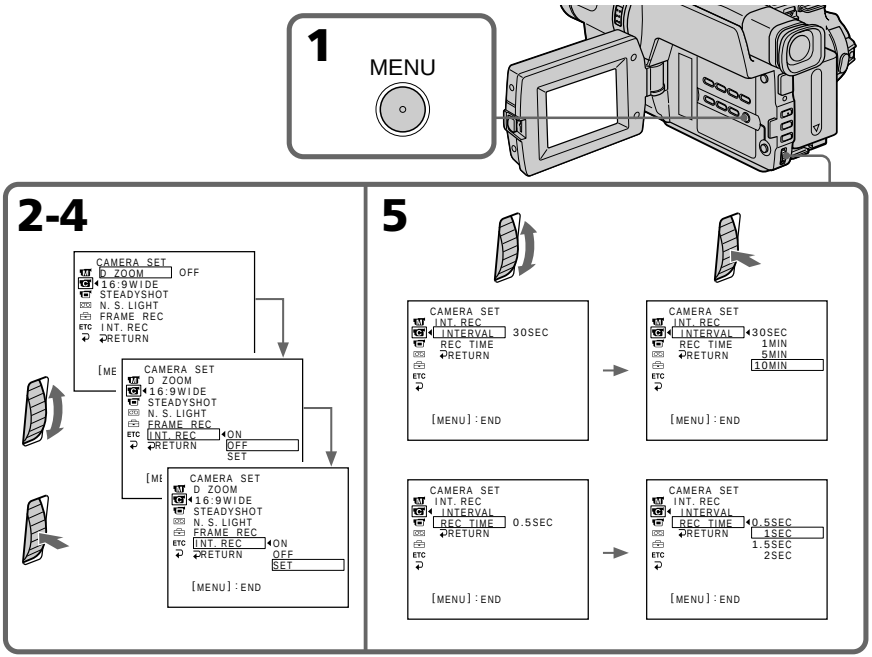
Example



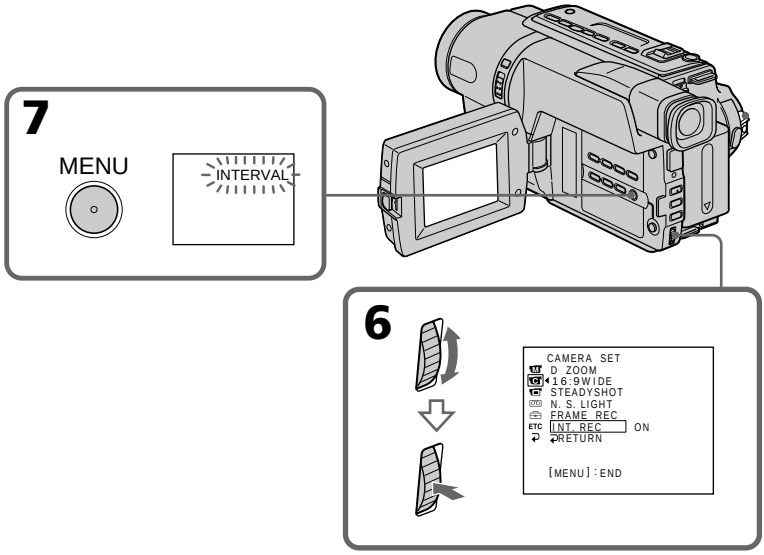
[a]: Recording time
[b]: Waiting time
[c]: Interval time

(1) In CAMERA mode, press MENU to display the menu in the standby mode.
(2) Turn the SEL/PUSH EXEC dial to select , then press the dial.
(3) Turn the SEL/PUSH EXEC dial to select INT. REC, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select SET, then press the dial.
(5) Set INTERVAL and REC TIME.

① Turn the SEL/PUSH EXEC dial to select INTERVAL, then press the dial.
② Turn the SEL/PUSH EXEC dial to select the desired interval time, then press the dial.
The time: 30SEC ↔ 1MIN ↔ 5MIN ↔ 10MIN
③ Turn the SEL/PUSH EXEC dial to select REC TIME, then press the dial.
④ Turn the SEL/PUSH EXEC dial to select the desired recording time, then press the dial.
The time: 0.5SEC ↔ 1SEC ↔ 1.5SEC ↔ 2SEC
⑤ Turn the SEL/PUSH EXEC dial to select ⮌ RETURN, then press the dial.



(6) Turn the SEL/PUSH EXEC dial to select ON, then press the dial.
(7) Press MENU to erase the menu display. The interval recording indicator flashes.
(8) Press START/STOP to start interval recording. The interval recording indicator lights up.



To cancel the interval recording

Set INT. REC to OFF in the menu settings.

To stop the interval recording momentarily and perform normal recording

Press START/STOP. You can perform normal recording only once. To cancel the normal recording, press START/STOP again.

On recording time

There may be a discrepancy in recording time of up to ±6 frames from the selected time.

When you set the POWER switch to OFF (CHG)

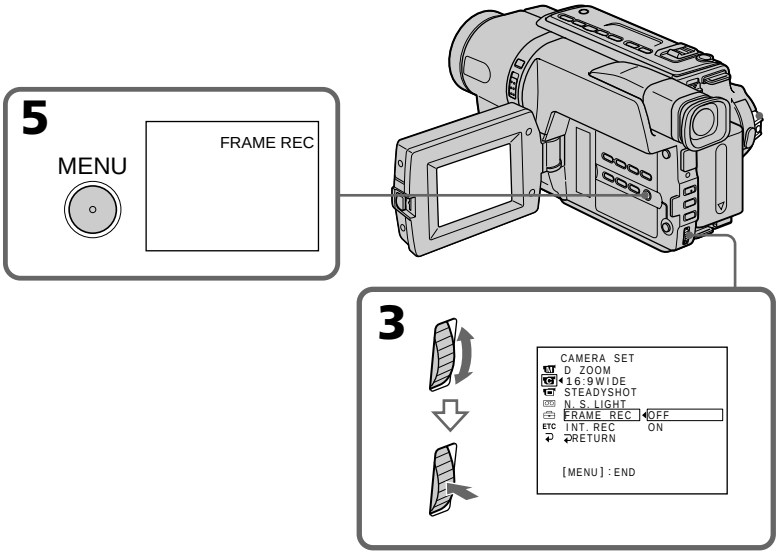
The interval recording function is automatically canceled.

Frame by frame recording – Cut recording

– DCR-TRV140 only

You can make a recording with a stop-motion animated effect using cut recording. To create this effect, alternately move the subject a little and make a cut recording. We recommend that you use a tripod, and operate the camcorder using the Remote Commander after step 6.

(1) In CAMERA mode, press MENU to display the menu.
(2) Turn the SEL/PUSH EXEC dial to select , then press the dial.
(3) Turn the SEL/PUSH EXEC dial to select FRAME REC, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select ON, then press the dial.
(5) Press MENU to erase the menu display.
The FRAM REC indicator lights up.
(6) Press START/STOP to start cut recording. The camcorder makes a recording for about six frames, and returns to recording standby.
(7) Move the subject, and repeat step 6.



To cancel the cut recording

Set FRAME REC to OFF in the menu settings.

Notes on cut recording

- The last recorded cut is longer than other cuts.
- The proper remaining tape time is not indicated if you use this function continuously.

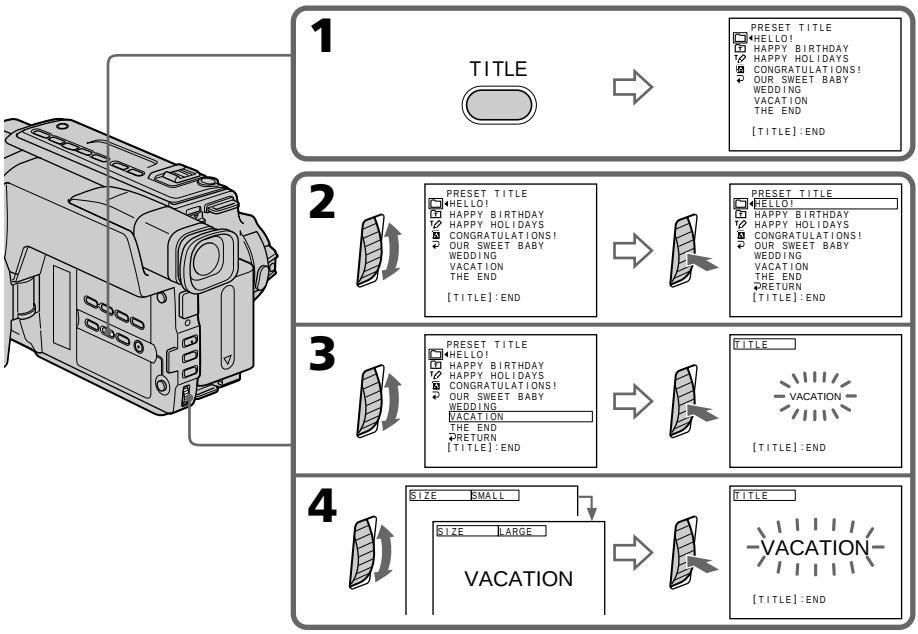
When you set the POWER switch to OFF (CHG)

The cut recording function is automatically canceled.

Superimposing a title

You can select one of eight preset titles and two custom titles (p. 59). You can also select the language, color, size, and position of titles.

(1) In CAMERA mode, press TITLE to display the title menu.
(2) Turn the SEL/PUSH EXEC dial to select 🗀, and then press the dial.
(3) Select the desired title in the menu settings, then press the SEL/PUSH EXEC dial. The titles are displayed in the language you selected.
(4) Change the color, size, or position, if necessary.
① Turn the SEL/PUSH EXEC dial to select the color, size, or position, then press the dial. The item appears.
② Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial.
③ Repeat steps ① and ② until the title is laid out as desired.
(5) Press the SEL/PUSH EXEC dial again to complete the setting.
(6) Press START/STOP to start recording.
(7) When you want to stop recording the title, press TITLE.



To superimpose the title while you are recording

Press TITLE while you are recording, and carry out steps 2 to 5. When you press the SEL/PUSH EXEC dial at step 5, the title is superimposed.

To select the language of a preset title

If you want to change the language, select [A] before step 2. Then select the desired language and return to step 2.

Note (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

Both the date and time or either of them may not be displayed depending on the size or position of the title.

If you display the menu or title menu while superimposing a title

The title is not recorded while the menu or title menu is displayed.

To use the custom title

If you want to use the custom title, select [T] in step 2.

Title setting

- The title color changes as follows:
  WHITE ↔ YELLOW ↔ VIOLET ↔ RED ↔ CYAN ↔ GREEN ↔ BLUE
- The title size changes as follows:
  SMALL ↔ LARGE
  You cannot input 13 characters or more in LARGE size. If you input more than 12 characters, the title size returns to SMALL even if you select LARGE.
- The title position changes as follows:
  1↔ 2↔ 3↔ 4↔ 5↔ 6↔ 7↔ 8↔ 9
  The larger the position number, the lower the title is positioned.
  When you select the title size "LARGE", you cannot choose position 9.
  When you select the title size "LARGE" in CINEMA mode, you cannot choose position 8 nor 9.*1)

When you are selecting and setting the title

You cannot record the title displayed on the screen.

When you superimpose a title while you are recording

The beep does not sound.

While you are playing back

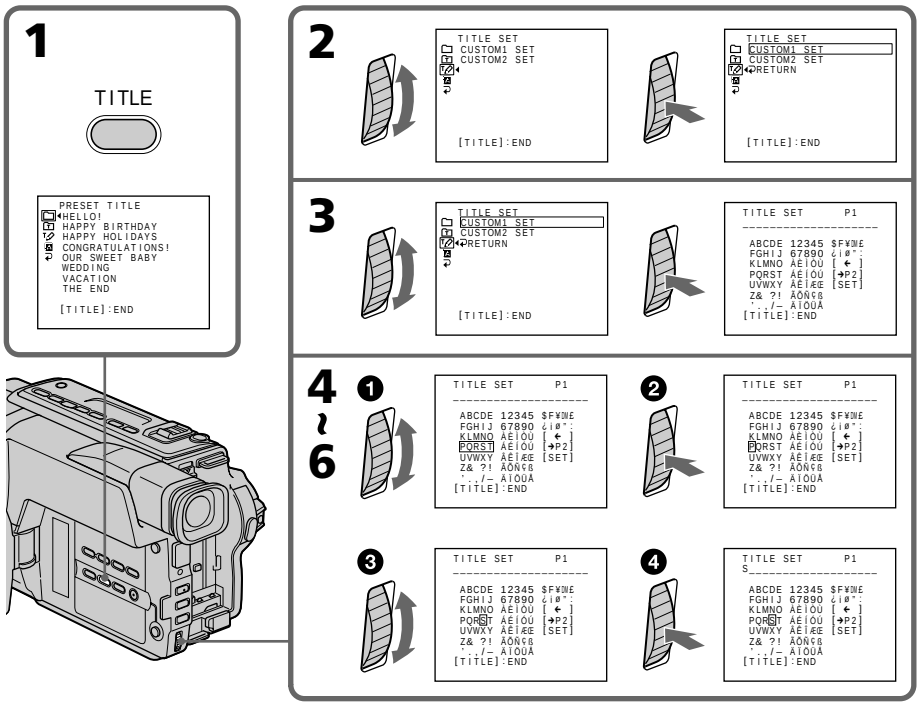
You can superimpose a title. However, the title is not recorded on tape.
You can record a title when you dub a tape connecting your camcorder to the VCR with the A/V connecting cable.
If you use the i.LINK cable instead of the A/V connecting cable, you cannot record the title.*2)

*1) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*2) DCR-TRV140 only

Making your own titles

You can make up to two titles and store them in your camcorder. Each title can have up to 20 characters.

(1) In CAMERA or VCR*1)/PLAYER*2) mode, press TITLE.
(2) Turn the SEL/PUSH EXEC dial to select [T], then press the dial.
(3) Turn the SEL/PUSH EXEC dial to select the first line (CUSTOM1 SET) or the second line (CUSTOM2 SET), then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select the column of the desired character, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select the desired character, then press the dial.
(6) Repeat steps 4 and 5 until you have selected all characters and completed the title.
(7) To finish making your own titles, turn the SEL/PUSH EXEC dial to select [SET], then press the dial. The title is stored in memory.
(8) Press TITLE to make the title menu disappear.



*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

To change a title you have stored

In step 3, select CUSTOM1 SET or CUSTOM2 SET, depending on which title you want to change, then press the SEL/PUSH EXEC dial. Turn the SEL/PUSH EXEC dial to select [←], then press the dial to delete the title. The last character is erased. Enter the new title as desired.

If you take 3 minutes*1)/5 minutes*2) or longer to enter characters in the standby mode while a cassette is in your camcorder

The power automatically turns off. The characters you have entered remain stored in memory. Set the POWER switch to OFF (CHG) once, and turn it to CAMERA again, then proceed from step 1.

We recommend setting the POWER switch to VCR*1)/PLAYER*2) or removing the cassette so that your camcorder does not automatically turn off while you are entering title characters.

If you select [→P2]

The menu for selecting alphabet and Russian characters appears. Select [→P1] to return to the previous screen.

To erase a character

Select [←]. The last character is erased.

To enter a space

Select [Z & ? !], then select the blank part.

*1) DCR-TRV140 only

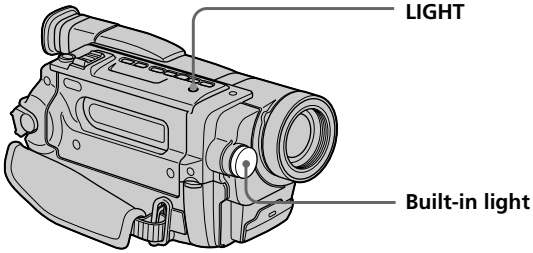
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Using the built-in light

– CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only

You can use the built-in light to suit your shooting situation. The recommended distance between the subject and camcorder is about 1.5 m (5 feet).

Press LIGHT repeatedly until the ON indicator appears on the screen while your camcorder is in CAMERA mode. The built-in light turns on.
If you turn the POWER switch to OFF (CHG), the built-in light turns off simultaneously. You cannot turn the built-in light on by turning the POWER switch to CAMERA again. To turn on the built-in light again, press LIGHT again in CAMERA mode.



To turn off the built-in light

Press LIGHT repeatedly until no indicator appears on the screen.

To turn on the built-in light automatically

Press LIGHT repeatedly until the AUTO indicator appears on the screen.
The built-in light automatically turns on and off according to the ambient brightness.

CAUTION

Be careful not to touch the lighting section, because the plastic window and surrounding surfaces are hot while the light is on. It remains hot for a while after the light is turned off.

DANGER

Not to be handled by children.
Emits intense heat and light.
Use with caution to reduce the risk of fire or injury to persons.
Do not directly aim the light at persons or materials from less than 1.22 m (4 feet) during use and until cool.
Turn the built-in light off when not in use.

When you press LIGHT
The indicator changes as follows:

→ AUTO → ON → no indicator →

Using the built-in light

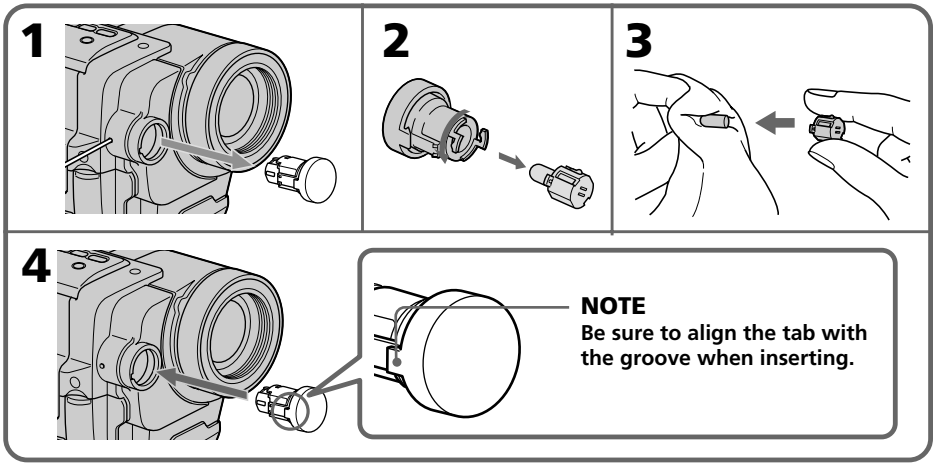
Notes

- The built-in light turns off automatically in the following cases:
  – When it stays on in the AUTO mode (AUTO) for more than 5 minutes
  – When you leave it on for more than 5 minutes with no cassette inserted or after the tape has run out.
  To turn the built-in light on again, press LIGHT again.
- The battery pack discharges quickly while the built-in light is turned on. Turn it off when not in use.
- When you do not use your camcorder, turn the built-in light off and remove the battery pack to avoid turning on the built-in light accidentally.
- When flickering occurs while shooting in the AUTO mode (AUTO), press LIGHT until the ON indicator appears.
- The built-in light may turn on/off when you use the PROGRAM AE or backlight function while shooting in the AUTO mode (AUTO).
- The built-in light may turn off when inserting or ejecting a cassette.
- While the end search function is working, the built-in light is turned off.
- When you use the conversion lens (optional), light from the built-in light is blocked and may not illuminate the subject properly.

Replacing the bulb

Use the Sony XB-3D halogen lamp (optional). The supplied halogen lamp is not commercially available. Purchase the Sony XB-3D halogen lamp.
Remove the power source before replacing the bulb.

(1) Remove the built-in light unit while pushing the hole under the built-in light unit using a wire.
(2) Turn the bulb housing counterclockwise and detach from the built-in light unit.
(3) Replace the bulb using a dry cloth.
(4) Attach the bulb housing by turning it clockwise, then replace the built-in light unit.



CAUTION

- When replacing the bulb, use only the Sony XB-3D halogen lamp (optional) to reduce the risk of fire.
- To prevent possible burn hazard, disconnect the power source before replacing and do not touch the bulb until the bulb becomes cool enough to handle (for about 30 minutes or more).

Note

To prevent the bulb from being smudged with finger prints, handle it with a dry cloth, etc. If the bulb is smudged, wipe it completely.

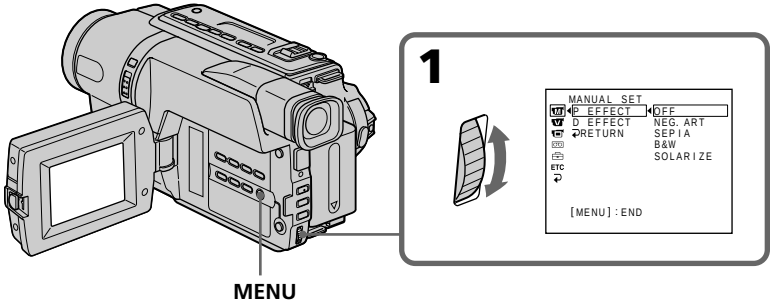
Playing back a tape with picture effects

– DCR-TRV140 only

During playback, you can process a scene using the picture effect functions: NEG. ART, SEPIA, B&W and SOLARIZE.

(1) In the playback or playback pause mode, select P EFFECT in VM in the menu settings (p. 106).

(2) Select the desired mode by turning the SEL/PUSH EXEC dial.
For details of each picture effect function, see page 46.



To cancel the picture effect function

Set P EFFECT to OFF in the menu settings.

Note

You cannot record pictures that you have processed using the picture effect function with this camcorder. To record pictures that you have processed using the picture effect function, record the pictures on the VCR using your camcorder as a player.

Pictures processed by the picture effect function

Pictures processed by the picture effect function are not output through the i.LINK DV IN/OUT jack.

When you set the POWER switch to OFF (CHG) or stop playing back

The picture effect function is automatically canceled.

Playing back a tape with digital effects

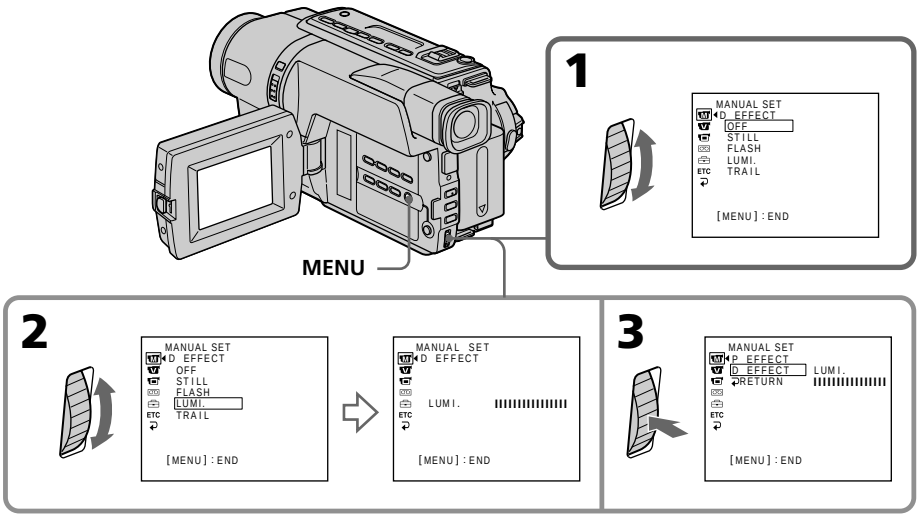
– DCR-TRV140 only

During playback, you can process a scene using the digital effect functions: STILL, FLASH, LUMI., and TRAIL.

(1) In the playback or playback pause mode, select D EFFECT in M in the menu settings (p. 106).

(2) Select the desired digital effect mode in the menu settings, then press the SEL/PUSH EXEC dial. The digital effect indicator lights up and the bars appear. In the STILL or LUMI. mode, the image where you press the SEL/PUSH EXEC dial is stored in memory as a still image.

(3) Turn the SEL/PUSH EXEC dial to adjust the effect.
For details of each digital effect function, see page 47.



To cancel the digital effect function

Set D EFFECT to OFF in the menu settings.

Note

You cannot record images that you have processed using the digital effect function with this camcorder. To record images that you have processed using the digital effect function, record the images on the VCR using your camcorder as a player.

Pictures processed by the digital effect function

Pictures processed by the digital effect function are not output through the i.LINK DV IN/OUT jack.

When you set the POWER switch to OFF (CHG) or stop playing back

The digital effect function is automatically canceled.

Enlarging images recorded on tapes – Tape PB ZOOM

– DCR-TRV140 only

You can enlarge moving and still images recorded on tapes.

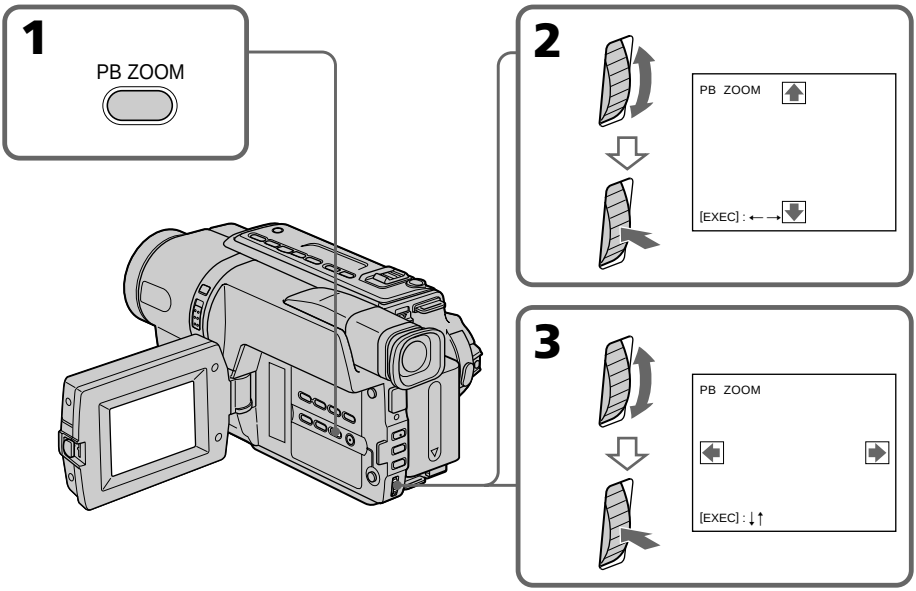
(1) Press PB ZOOM on your camcorder while you are playing back. The image is enlarged, and ↑↓ appears on the screen.

(2) Turn the SEL/PUSH EXEC dial to move the enlarged image, then press the dial.

↑ : The image moves upward.
↓ : The image moves downward.
← → becomes available.

(3) Turn the SEL/PUSH EXEC dial to move the enlarged image, then press the dial.

← : The image moves leftward (Turn the dial upward.)
→ : The image moves rightward (Turn the dial downward.)



To cancel the Tape PB ZOOM function

Press PB ZOOM.

Note

You cannot record pictures that you have processed using the Tape PB ZOOM function with this camcorder. To record pictures that you have processed using the Tape PB ZOOM function, record the pictures on the VCR using your camcorder as a player.

Pictures processed by the Tape PB ZOOM function

Pictures processed by the Tape PB ZOOM function are not output through the i.LINK DV IN/OUT jack.

Tape PB ZOOM function is automatically canceled when:

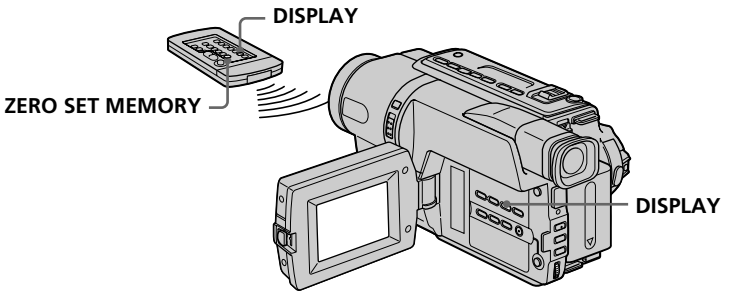
– you set the POWER switch to OFF (CHG).
– you stop playing back.
– you press MENU.
– you press TITLE.

Quickly locating a scene using the zero set memory function

– DCR-TRV140 only

Your camcorder goes forward or backward to automatically stop at a desired scene having a counter value of "0:00:00".
Use the Remote Commander for this operation.
Use this function, for example, to view a desired scene later on during playback.

(1) In the playback mode, press DISPLAY.
(2) Press ZERO SET MEMORY on the Remote Commander at the point you want to locate later. The counter shows "0:00:00" and the ZERO SET MEMORY indicator flashes.
(3) Press ■ when you want to stop playback.
(4) Press ◄◄ to rewind the tape to the counter's zero point. The tape stops automatically when the counter reaches approximately zero. The ZERO SET MEMORY indicator disappears and the time code appears.
(5) Press ►. Playback starts from the counter's zero point.



Notes

- When you press ZERO SET MEMORY on the Remote Commander before rewinding the tape, the zero set memory function is canceled.
- There may be a discrepancy of several seconds from the time code.

If a tape has a blank portion in the recorded portions

The zero set memory function may not work correctly.

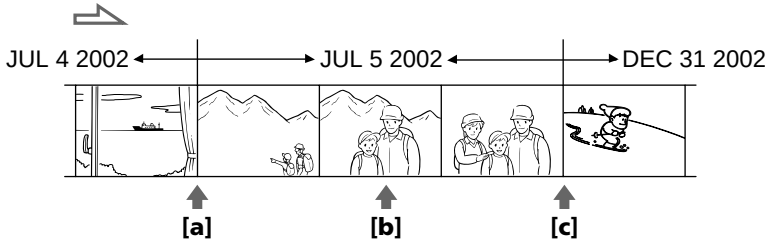
The zero set memory function also in the standby mode

When you insert a scene in the middle of a recorded tape, press ZERO SET MEMORY at the point you want to end the insertion. Rewind the tape to the insert start point, and start recording. Recording stops automatically at the tape counter zero point. Your camcorder returns to the standby mode.

Searching a recording by date – Date search

– DCR-TRV140 only

You can automatically search for the point where the recording date changes and start playback from that point **(Date search)**. Use the Remote Commander for this operation. Use this function to check where recording dates change or to edit the tape at each recording date.

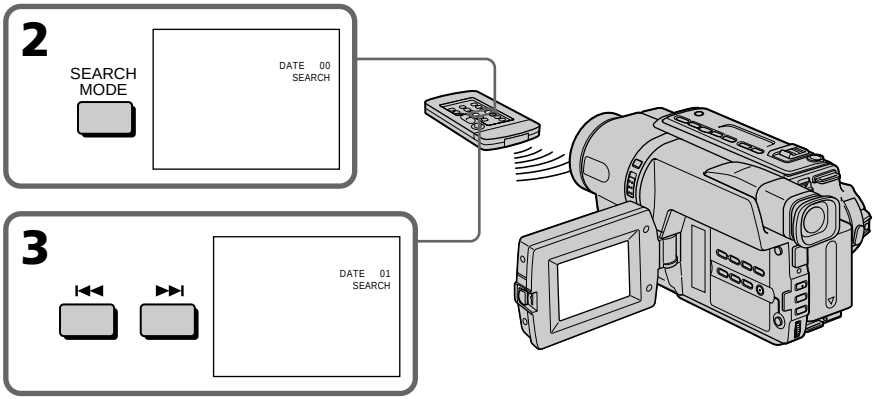


(1) Set the POWER switch to VCR.

(2) Press SEARCH MODE on the Remote Commander repeatedly, until the date search indicator appears.
The indicator changes as follows:

DATE SEARCH → PHOTO SEARCH → PHOTO SCAN → no indicator → DATE SEARCH

(3) When the current position is **[b]**, press ⏮ to search towards **[a]** or press ⏭ to search towards **[c]**. Your camcorder automatically starts playback at the point where the date changes.
Each time you press ⏮ or ⏭, the camcorder searches for the previous or next date.



To stop searching

Press ■.

Note

If one day's recording is less than 2 minutes, your camcorder may not accurately find the point where the recording date changes.

If a tape has a blank portion in the recorded portions

The date search function may not work correctly.

Searching for a photo – Photo search/Photo scan

– DCR-TRV140 only

You can search for the still image recorded on tape **(Photo search)**.
You can also search for still images one after another and display each image for 5 seconds automatically **(Photo scan)**. Use the Remote Commander for these operations.

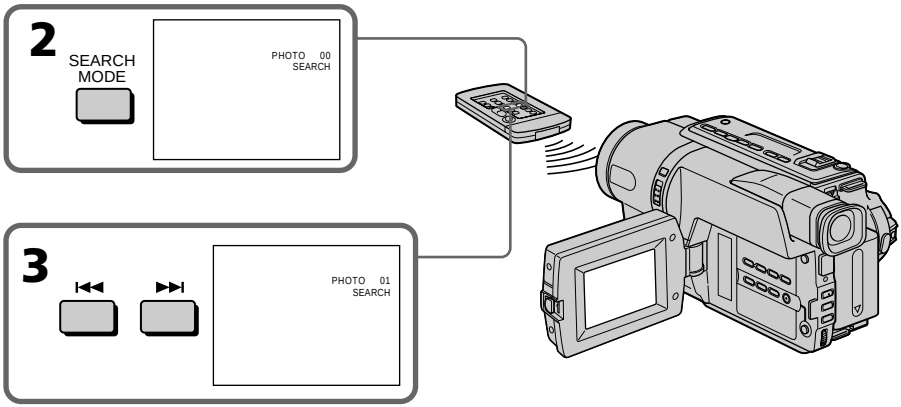
Searching for a photo

(1) Set the POWER switch to VCR.

(2) Press SEARCH MODE on the Remote Commander repeatedly, until the photo search indicator appears.
The indicator changes as follows:

DATE SEARCH → PHOTO SEARCH → PHOTO SCAN → no indicator → DATE SEARCH

(3) Press ⏮ or ⏭ to select the photo for playback. Each time you press ⏮ or ⏭, the camcorder searches for the previous or next photo. Your camcorder automatically starts playback from the photo.



To stop searching

Press ■.

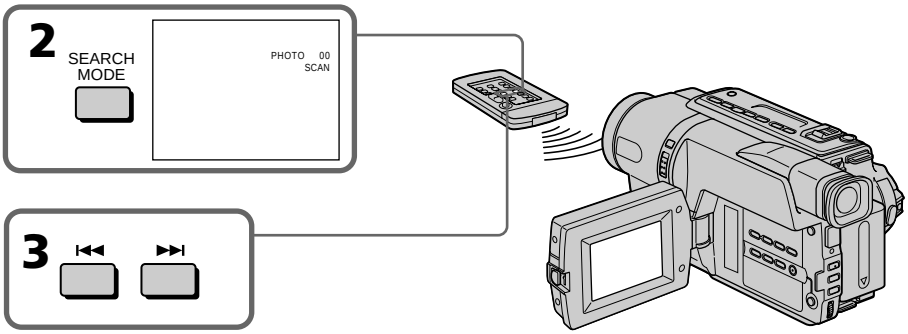
Scanning photo

(1) Set the POWER switch to VCR.

(2) Press SEARCH MODE on the Remote Commander repeatedly, until the photo scan indicator appears.
The indicator changes as follows:

DATE SEARCH → PHOTO SEARCH → PHOTO SCAN → no indicator → DATE SEARCH

(3) Press ⏮ or ⏭ on the remote commander.
Each photo is played back for about 5 seconds automatically.



To stop scanning

Press ■.

If a tape has a blank portion in the recorded portions

The photo search and photo scan functions may not work correctly.

Dubbing a tape

Using the A/V connecting cable

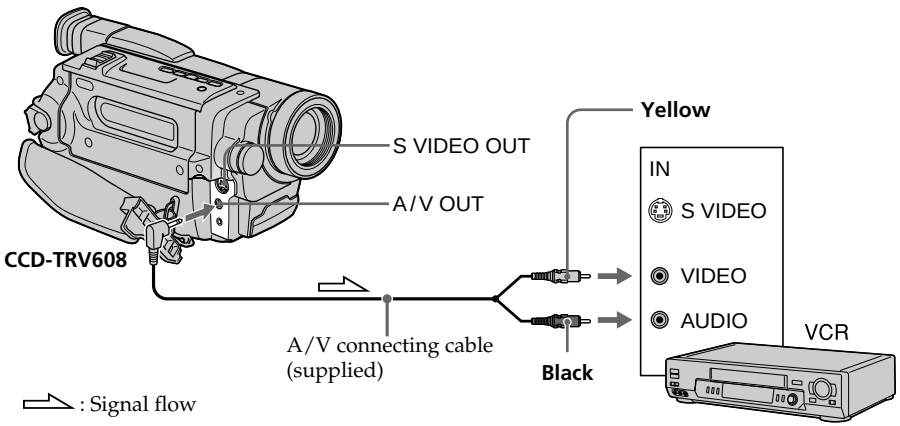
Connect your camcorder to the VCR using the A/V connecting cable supplied with your camcorder.
You can record and edit a picture with the connected VCR by using your camcorder as a player.
Set DISPLAY to LCD in ETC in the menu settings. (The default setting is set to LCD.)
If you do not make the indicators disappear, they are recorded on tapes.

Make the indicators disappear by pressing the following buttons:
– DISPLAY on your camcorder
– DISPLAY on the Remote Commander*1)
– DATA CODE/SEARCH MODE on the Remote Commander*2)

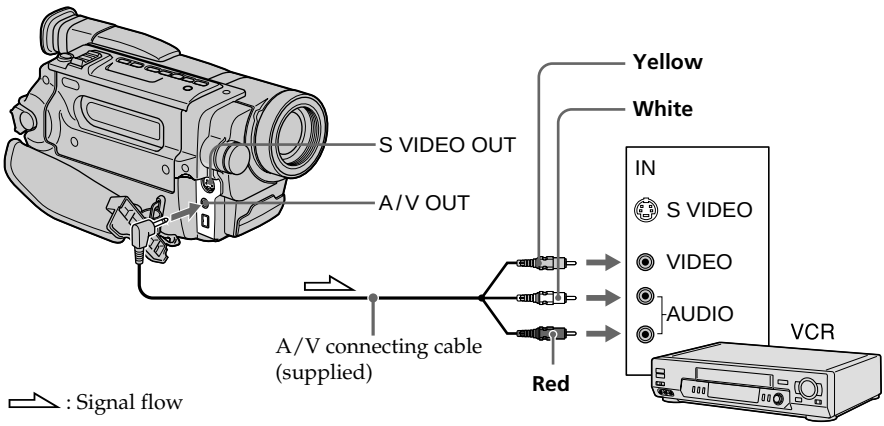
(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.
(2) Set the input selector on the VCR to LINE. Refer to the operating instructions of your VCR for more information.
(3) Set the POWER switch to VCR*2)/PLAYER*3).
(4) Play back the recorded tape on your camcorder.
(5) Start recording on the VCR.
Refer to the operating instructions of your VCR for more information.

*1) CCD-TRV107/TRV408, DCR-TRV140 only
*2) DCR-TRV140 only
*3) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

CCD-TRV107/TRV108/TRV308/TRV408/TRV608



DCR-TRV140



When you have finished dubbing a tape

Press ■ on both your camcorder and the VCR.

To prevent deterioration of pictures when dubbing (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

Set EDIT to ON in the menu settings before dubbing.

You can edit on VCRs that support the following systems:
8 mm 8, Hi8 Hi8, Digital8 D8, VHS VHS, S-VHS S-VHS, VHSC VHS-C, S-VHSC S-VHS-C, Betamax β, ED Betamax ED Beta, mini DV Mini DV, or DV DV

If your VCR is a monaural type (DCR-TRV140 only)
Connect the yellow plug of the A/V connecting cable to the video input jack and the white or the red plug to the audio input jack on the TV. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

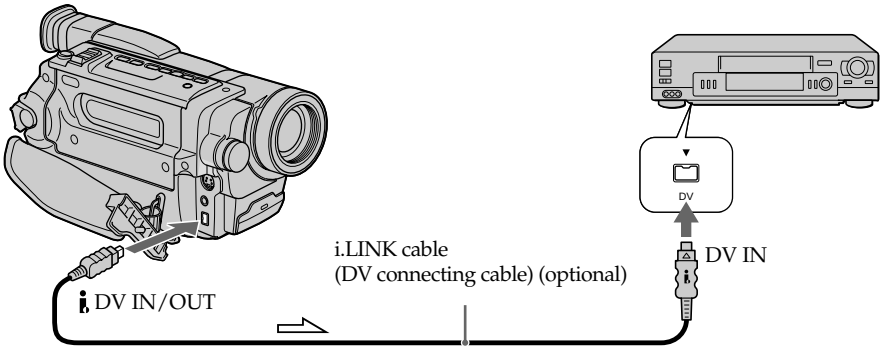
If your VCR is a stereo type (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)
Connect the audio plug of the A/V connecting cable supplied to the left (white) input jack of your VCR.

If your VCR has an S video jack
Connect using an S video cable (optional) to obtain optimum quality screen images. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.
Connect an S video cable (optional) to the S video jacks of both your camcorder and the VCR.

Using the i.LINK cable (DV connecting cable) (DCR-TRV140 only)

Simply connect the i.LINK cable (DV connecting cable) (optional) to i DV IN/OUT and to DV IN of the DV products. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing. You cannot dub the screen indicators.

(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.
(2) Set the input selector on the VCR to DV IN if it is available. Refer to the operating instructions of your VCR for more information.
(3) Set the POWER switch to VCR.
(4) Play back the recorded tape on your camcorder.
(5) Start recording on the VCR.
Refer to the operating instructions of your VCR for more information.



: Signal flow

When you have finished dubbing a tape

Press ■ on both your camcorder and the VCR.

You can connect one VCR only using the i.LINK cable (DV connecting cable).
See page 126 for more information about i.LINK.

The following functions do not work during digital editing :
– Picture effect
– Digital effect
– PB ZOOM

If you record a playback pause picture via the i DV IN/OUT jack
The recorded picture becomes rough. Also, when you play back recorded pictures on other video equipment, the picture may jitter.

Dubbing a tape easily – Easy Dubbing

– CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

VCR operation for dubbing can be controlled easily by using your camcorder when the VCR is connected.
You can select one of eight preset titles and two custom titles stored in your camcorder as instructed in "Making your own titles" (p. 59). Select the desired color, size, and background color of titles.

Using the Easy Dubbing function

Step 1 Connecting the VCR (p. 75).
Step 2 Setting the VCR to operate with your camcorder (p. 76 to 79).
Step 3 Selecting the title (p. 80).
Step 4 Selecting the dubbing mode (p. 81).
Step 5 Performing Easy Dubbing (p. 82).

If you dub using the same VCR again, you can skip step 2.
If you do not need to put in a title, you can skip step 3.

Step 1: Connecting the VCR

Connect the devices as illustrated in page 72.

You can edit on VCRs that support the following systems:
8 mm, Hi8, Digital8, VHS, S-VHS, VHSC, S-VHSC, Betamax, ED Betamax, mini DV, or DV

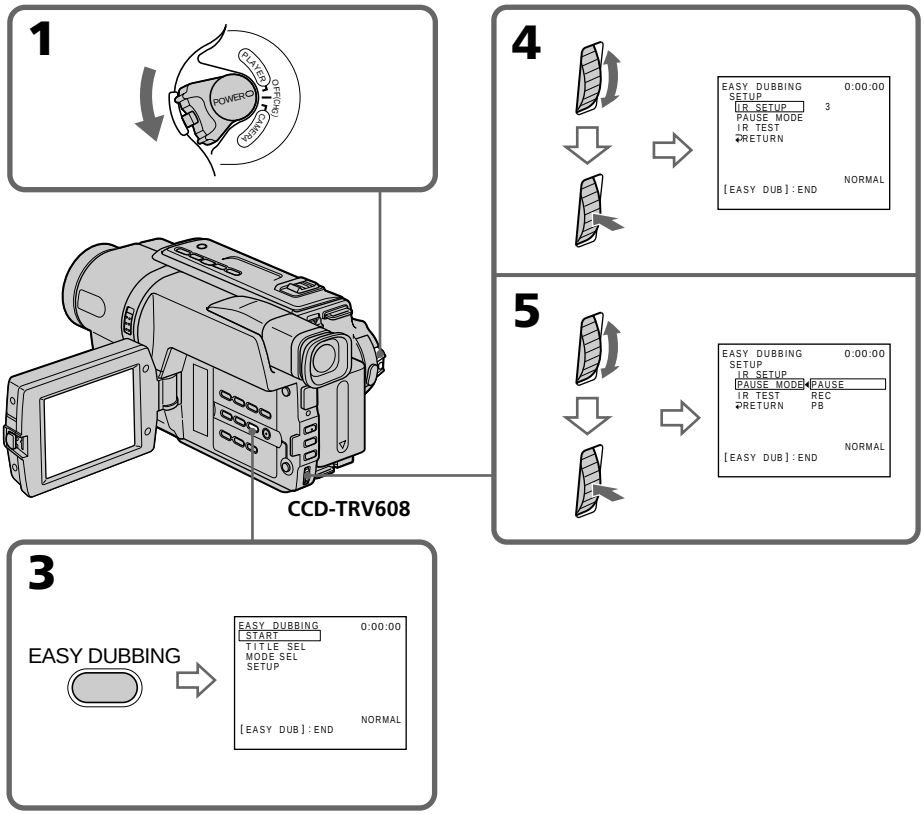
If your VCR has an S video jack
Connect using an S video cable (optional) to obtain optimum quality screen images. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.
Connect an S video cable (optional) to the S video jacks of both your camcorder and the VCR.

Step 2: Setting the VCR to operate with your camcorder

You can control the VCR by wireless remote control.

(1) Setting the modes to cancel recording pause on the VCR

① Set the POWER switch to PLAYER on your camcorder.
② Turn the power of the connected VCR on, then set the input selector to LINE. When you connect a video camera recorder, set its power switch to VTR/VCR.
③ Press EASY DUBBING to display the menu.
④ Turn the SEL/PUSH EXEC dial to select SETUP, then press the dial.
⑤ Turn the SEL/PUSH EXEC dial to select PAUSE MODE, then press the dial.
⑥ Turn the SEL/PUSH EXEC dial to select the mode to cancel recording pause on the VCR, then press the dial.



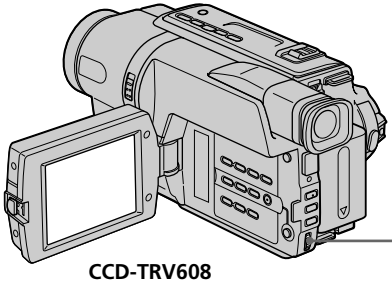
Buttons for canceling recording pause on the VCR

The buttons vary depending on your VCR. To cancel recording pause:
– Select PAUSE if the button to cancel recording pause is ❚❚.
– Select REC if the button to cancel recording pause is ●.
– Select PB if the button to cancel recording pause is ►.

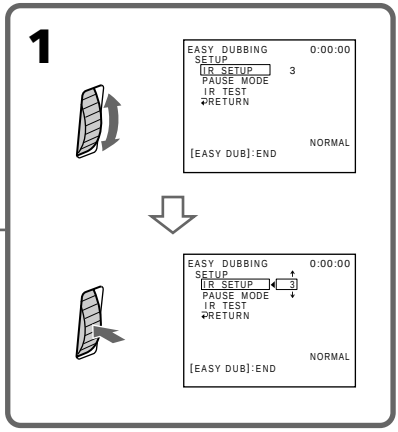
(2) Setting the IR SETUP code

① Turn the SEL/PUSH EXEC dial to select IR SETUP, then press the dial.
② Turn the SEL/PUSH EXEC dial to select the IR SETUP code of your VCR, then press the dial.

Check the code in "About the IR SETUP code" (p. 78).



CCD-TRV608



About the IR SETUP code

The IR SETUP code is stored in the memory of your camcorder. Be sure to set the correct code depending on your VCR. The default setting is Code number 3.

Brand	IR SETUP code
Sony	1, 2, 3, 4, 5, 6
Admiral (M. Wards)	89
Aiwa	80, 47, 54
Akai	49, 51
Audio Dynamic	21, 35
Bell&Howell (M. Wards)	36
Brocsonic	70, 82, 21
Canon	77, 78
Citizen	47
Craig	73, 47
Curtis Mathis	8, 80, 77
Daewoo	26, 40, 77
DBX	21, 33, 35
Dimensia	8
Emerson	26, 82, 59, 48, 70, 81, 80
Fisher	36, 45, 37, 44
Funai	80
General Electric	8, 77, 32*, 94*, 101
Goldstar/LG	47
GO VIDEO	71
Hitachi	78, 8, 42
HQ	40
Instant Replay	77, 78
JC Penny	77, 42, 8, 36, 21, 33, 35
JVC	21, 12, 13, 14, 33, 35
Kenwood	21, 33, 47, 35
LXI (Sears)	80, 47, 42, 44, 45, 36, 37, 49
Magnavox	83, 78, 77, 17
Marantz	21, 33, 35
Marta	47
Memorex	77, 37
Minolta	42, 8
Mitsubishi/MGA	28, 22, 23, 24, 29
Multitech	23, 80, 32
NEC	21, 33, 35
Olympic	77, 78
Optimus	22
Orion	60
Panasonic	16, 17, 78, 77
Pentax	42, 8
Philco	78, 77, 26, 70
Philips	47, 83, 78, 77
Pioneer	78
Quasar	78, 77, 16, 17, 6
RCA/PROSCAN	8, 42, 16, 77, 83, 7, 40, 41, 78, 78*, 101
Realistic	77, 36, 88, 37, 22, 80
Sansui	21
Singer	73
Samsung	94, 41, 32, 24, 32*, 94*, 24*
Sanyo	36, 37, 26, 36, 47
Scott	40, 41, 32, 37, 28, 22, 23, 24
Sharp	89, 88
Shintom	73
Signature 2000 (M. Wards)	80, 89
Sylvania	83, 78, 77, 80
Symphonic	80
Tashiro	47
Tatung	21, 33, 35
Teac	21, 33, 80, 35
Technics	77, 78
Toshiba	40, 7, 49
Wards	89, 88, 37, 95, 47
Yamaha	36, 21, 33, 35
Zenith	95

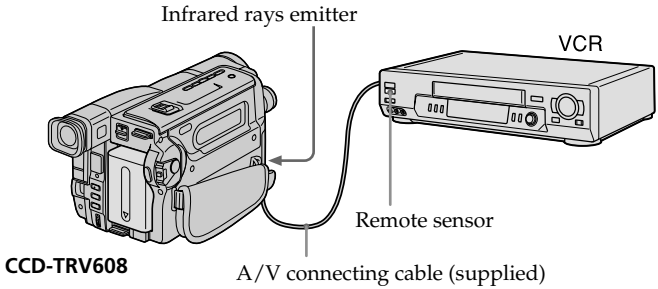
* TV/VCR component

Note on IR SETUP code

The Easy Dubbing is not possible if the VCR does not support IR SETUP codes.

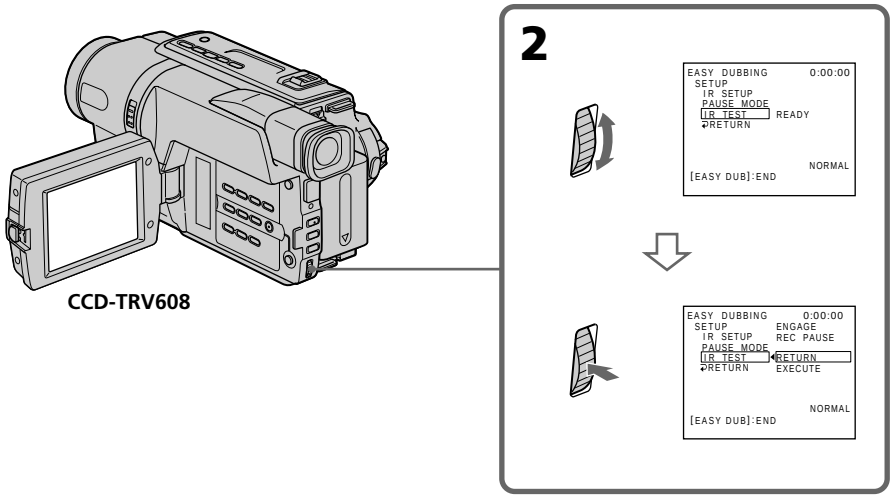
(3) Setting your camcorder and the VCR to face each other

Locate the Infrared rays emitter of your camcorder and face it towards the remote sensor of the VCR.
Set the devices about 30 cm (12 in.) apart, and remove any obstacles between the devices.



(4) Confirming the VCR operation

① Insert a recordable tape into the VCR, then set to recording pause.
② Turn the SEL/PUSH EXEC dial to select IR TEST, then press the dial.
③ Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial.
If the VCR starts recording, the setting is correct.
When finished, the indicator changes to COMPLETE.



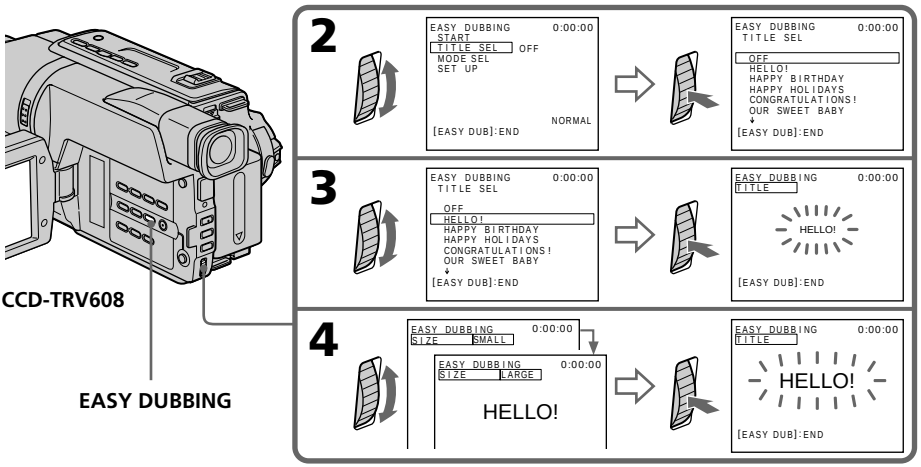
When the VCR does not operate correctly

- After checking the code in "About the IR SETUP code", set IR SETUP or PAUSE MODE again.
- Place your camcorder at least 30 cm (12 in.) away from the VCR.
- Refer to the operating instructions of your VCR.

Step 3: Selecting the title

You can select title, color, size, and background color.
CUSTOM1 and CUSTOM2 are custom titles stored in your camcorder as instructed in "Making your own titles".(p. 59)

(1) Press EASY DUBBING to display the menu.
(2) Turn the SEL/PUSH EXEC dial to select TITLE SEL, then press the dial.
(3) Select the desired title in the menu settings, then press the dial. The title is displayed.
(4) Change the color, size, or background color, if necessary.
① Turn the SEL/PUSH EXEC dial to select the color, size, or background color, then press the dial. The item appears.
② Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial.
③ Repeat steps ① and ② until the title is laid out as desired.
④ Press the SEL/PUSH EXEC dial again to complete the setting.



Note
You can put a title only into the tape of the VCR.

Title setting
- The title color changes as follows:
  WHITE ↔ YELLOW ↔ VIOLET ↔ RED ↔ CYAN ↔ GREEN ↔ BLUE
- The title size changes as follows:
  SMALL ↔ LARGE
- The background color changes as follows:
  FADE ↔ WHITE ↔ YELLOW ↔ VIOLET ↔ RED ↔ CYAN ↔ GREEN ↔ BLUE ↔ BLACK

Step 4: Selecting the dubbing mode

You can choose either normal recording (NORMAL) or interval recording (PREVIEW).

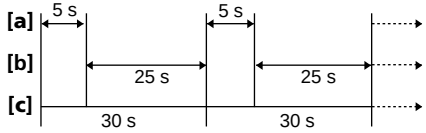
(1) Turn the SEL/PUSH EXEC dial to select MODE SEL, then press the dial.

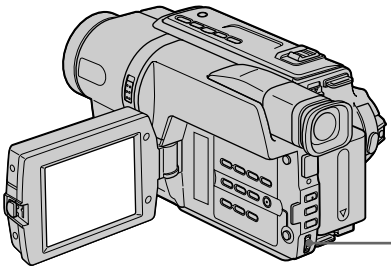
(2) Turn the SEL/PUSH EXEC dial to select the mode to dub, then press the dial.

– NORMAL: you can record into the VCR normally.

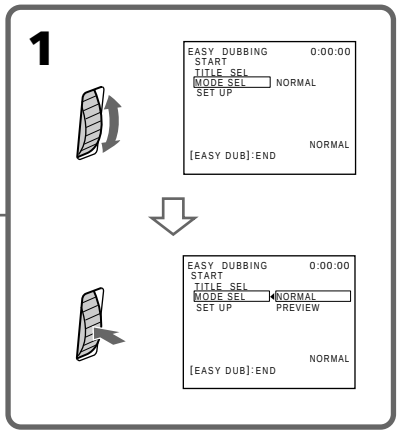
– PREVIEW: you can make a time-lapse dubbing by setting the camcorder to automatically playback and standby sequentially.

[a]: Recording (VCR)
[b]: Waiting time (VCR)
[c]: Playback time (camcorder)





CCD-TRV608



Step 5: Performing Easy Dubbing

Make sure that your camcorder and VCR are connected, and that the VCR is set to recording pause.
When you use a video camera recorder, set its POWER switch to VTR/VCR. Set the POWER switch of your camcorder to PLAYER.
(1) Turn the SEL/PUSH EXEC dial to select START, then press the dial.
(2) Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial.
When dubbing ends, your camcorder and VCR stop automatically.

To stop dubbing during editing
Press ■ on your camcorder.

To quit the Easy Dubbing function
Your camcorder stops when dubbing is complete. Then the display returns to START in the menu settings.
Press EASY DUBBING to quit the Easy Dubbing function.

Note
If you set the background color to FADE in Step 3, the picture may not appear properly depending on the connected VCR.

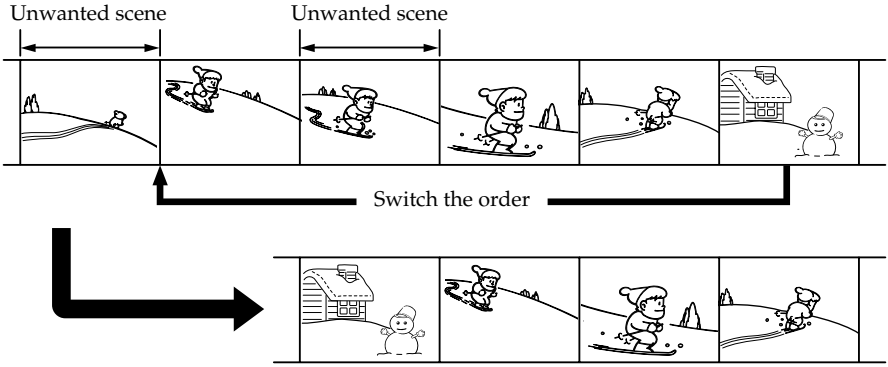
You cannot record on the VCR when:
– The tape has run out.
– The write-protect tab is set to expose the red mark.
– The IR SETUP code is not correct.
– The button used to cancel recording pause is not correct.

NOT READY appears on the screen when:
START is not carried out.

Dubbing only desired scenes – Digital program editing

– DCR-TRV140 only

You can duplicate selected scenes (programs) for editing onto a tape without operating the VCR.
Scenes can be selected by frame. You can set up to 20 programs.



Before operating the Digital program editing function

Step 1 Connecting the VCR (p. 83).
Step 2 Setting the VCR for operation (p. 84 to 87).
Step 3 Adjusting the synchronization of the VCR (p. 88).
When you dub using the same VCR again, you can skip steps 2 and 3.

Using the Digital program editing function

Operation 1 Making the program (p. 90).
Operation 2 Performing Digital program editing (dubbing a tape) (p. 91).

Step 1: Connecting the VCR

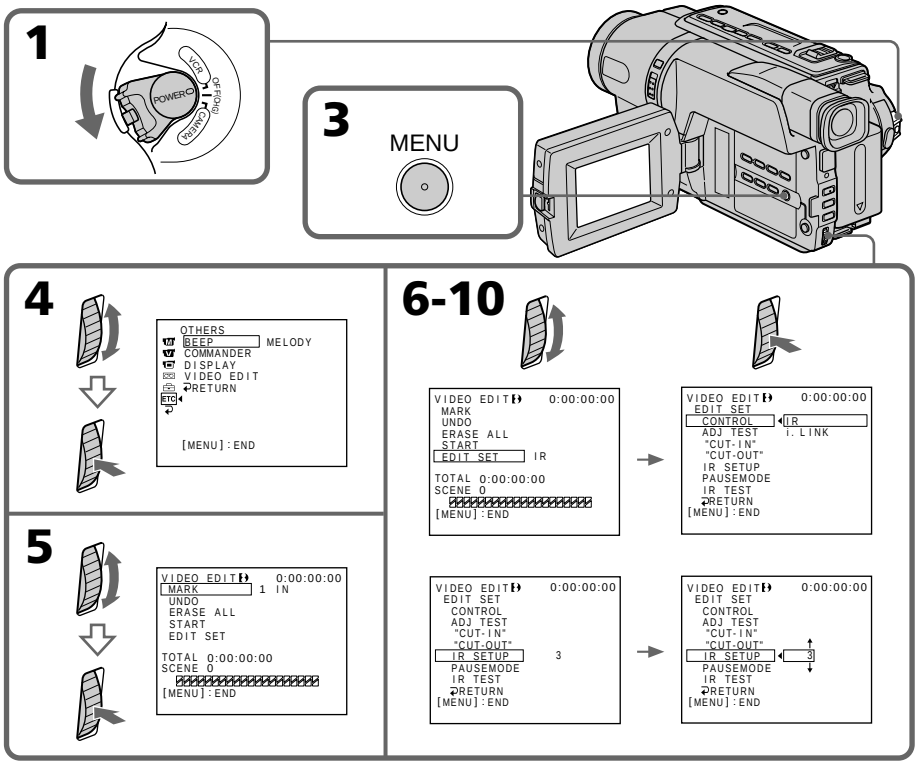
You can connect both the A/V connecting cable and the i.LINK cable (DV connecting cable).
When you use the A/V connecting cable, connect the devices as illustrated in page 73.
When you use the i.LINK cable (DV connecting cable), connect the devices as illustrated in page 74.

Step 2: Setting the VCR to operate with the A/V connecting cable

To edit using the VCR, send the control signal by infrared rays to the remote sensor on the VCR.
When you connect using the A/V connecting cable supplied, follow steps **(1)** to **(4)** below, to send the control signal correctly.

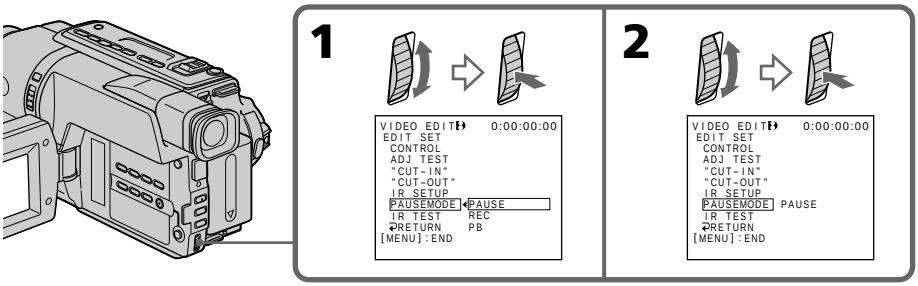
(1) Set the IR SETUP code

① Set the POWER switch to VCR on your camcorder.
② Turn the power of the connected VCR on, then set the input selector to LINE. When you connect a video camera recorder, set its power switch to VCR/VTR.
③ Press MENU to display the menu.
④ Turn the SEL/PUSH EXEC dial to select ETC, then press the dial.
⑤ Turn the SEL/PUSH EXEC dial to select VIDEO EDIT, then press the dial.
⑥ Turn the SEL/PUSH EXEC dial to select EDIT SET, then press the dial.
⑦ Turn the SEL/PUSH EXEC dial to select CONTROL, then press the dial.
⑧ Turn the SEL/PUSH EXEC dial to select IR, then press the dial.
⑨ Turn the SEL/PUSH EXEC dial to select IR SETUP, then press the dial.
⑩ Turn the SEL/PUSH EXEC dial to select the IR SETUP code number of your VCR, then press the dial.
Check the code in "About the IR SETUP code" (p. 78).



(2) Setting the modes to cancel recording pause on the VCR

① Turn the SEL/PUSH EXEC dial to select PAUSEMODE, then press the dial.
② Turn the SEL/PUSH EXEC dial to select the mode to cancel recording pause on the VCR, then press the dial.

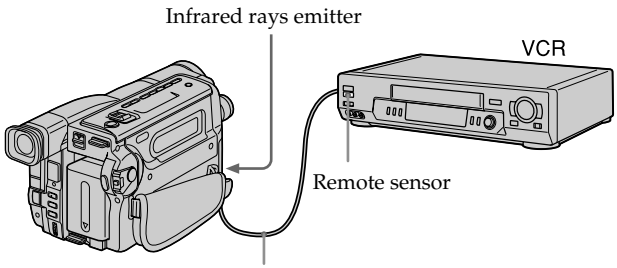


The buttons to cancel recording pause on the VCR

The buttons vary depending on your VCR. To cancel recording pause:
– Select PAUSE if the button to cancel recording pause is ❚❚.
– Select REC if the button to cancel recording pause is ●.
– Select PB if the button to cancel recording pause is ►.

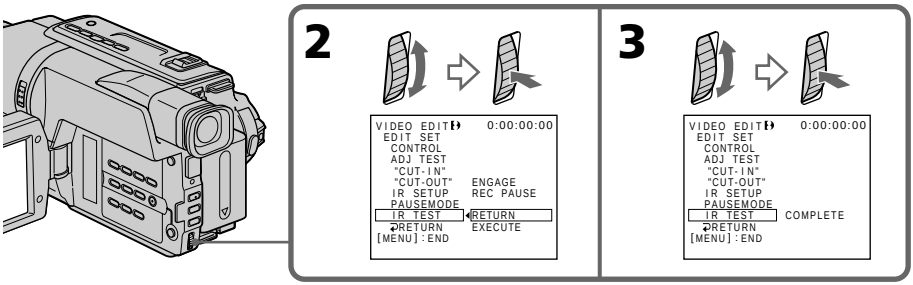
(3) Setting your camcorder and the VCR to face each other

Locate the infrared rays emitter of your camcorder and face it towards the remote sensor of the VCR.
Set the devices about 30 cm (12 in.) apart, and remove any obstacles between the devices.



(4) Confirming the VCR operation

① Insert a recordable tape into the VCR, then set to recording pause.
② Turn the SEL/PUSH EXEC dial to select IR TEST, then press the dial.
③ Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial.
If the VCR starts recording, the setting is correct.
When finished, the indicator changes to COMPLETE.



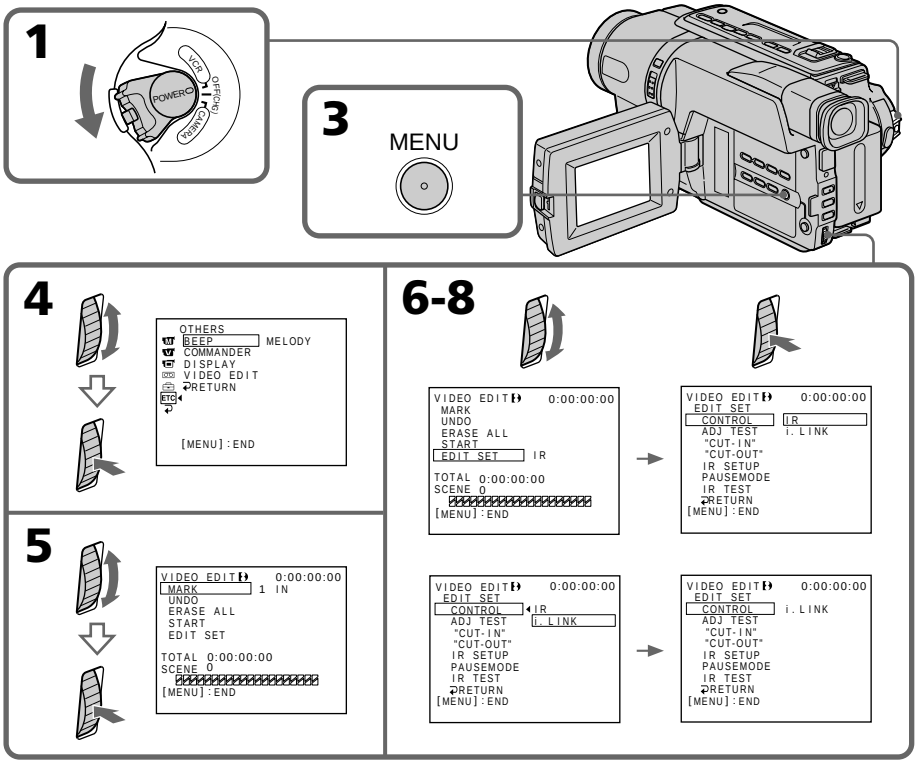
When the VCR does not operate correctly

- After checking the code in "About the IR SETUP code", set the IR SETUP or the PAUSEMODE again.
- Place your camcorder at least 30 cm (12 in.) away from the VCR.
- Refer to the operating instructions of your VCR.

Step 2: Setting the VCR to operate with the i.LINK cable (DV connecting cable)

When you connect using the i.LINK cable (DV connecting cable) (optional), follow the procedure below.

(1) Set the POWER switch to VCR on your camcorder .
(2) Turn the power of the connected VCR on, then set the input selector to DV input.
When you connect a digital video camera recorder, set its POWER switch to VCR/VTR.
(3) Press MENU to display the menu.
(4) Turn the SEL/PUSH EXEC dial to select ETC, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select VIDEO EDIT, then press the dial.
(6) Turn the SEL/PUSH EXEC dial to select EDIT SET, then press the dial.
(7) Turn the SEL/PUSH EXEC dial to select CONTROL, then press the dial.
(8) Turn the SEL/PUSH EXEC dial to select i.LINK, then press the dial.



Step 3: Adjusting the synchronization of the VCR

You can adjust the synchronization of your camcorder and the VCR. Have a pen and paper ready for notes. Before operation, eject the cassette from your camcorder.

(1) Set the POWER switch to VCR on your camcorder.

(2) Insert a blank tape (or a tape you want to record over) into the VCR, then set to recording pause.
When you select i.LINK in CONTROL, you do not need to set to recording pause.

(3) Press MENU to display the menu.

(4) Turn the SEL/PUSH EXEC dial to select ETC, then press the dial.

(5) Turn the SEL/PUSH EXEC dial to select VIDEO EDIT, then press the dial.

(6) Turn the SEL/PUSH EXEC dial to select EDIT SET, then press the dial.

(7) Turn the SEL/PUSH EXEC dial to select ADJ TEST, then press the dial.

(8) Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial.
IN and OUT are recorded on an image for 5 times each to calculate the numerical values for adjusting the synchronization.
The EXECUTING indicator flashes on the screen. When finished, the indicator changes to COMPLETE.

(9) Rewind the tape in the VCR, then start slow playback.
Take a note of the opening numerical value for each IN and the closing numerical value for each OUT.

(10) Calculate the average of all the opening numerical values for each IN, and the average of all the closing numerical values for each OUT.

(11) Turn the SEL/PUSH EXEC dial to select “CUT-IN”, then press the dial.

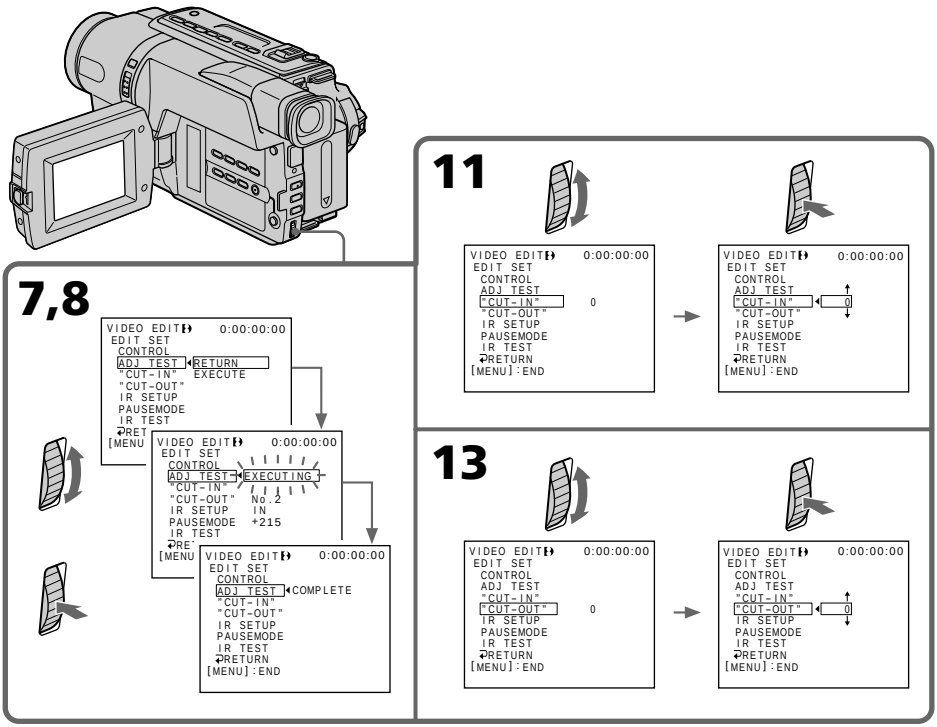
(12) Turn the SEL/PUSH EXEC dial to select the average numerical value of IN, then press the dial.
The calculated start position for recording is set.

(13) Turn the SEL/PUSH EXEC dial to select “CUT-OUT”, then press the dial.

(14) Turn the SEL/PUSH EXEC dial to select the average numerical value of OUT, then press the dial.
The calculated stop position for recording is set.

(15) Turn the SEL/PUSH EXEC dial to select ↩ RETURN, then press the dial.

Dubbing only desired scenes – Digital program editing



Notes

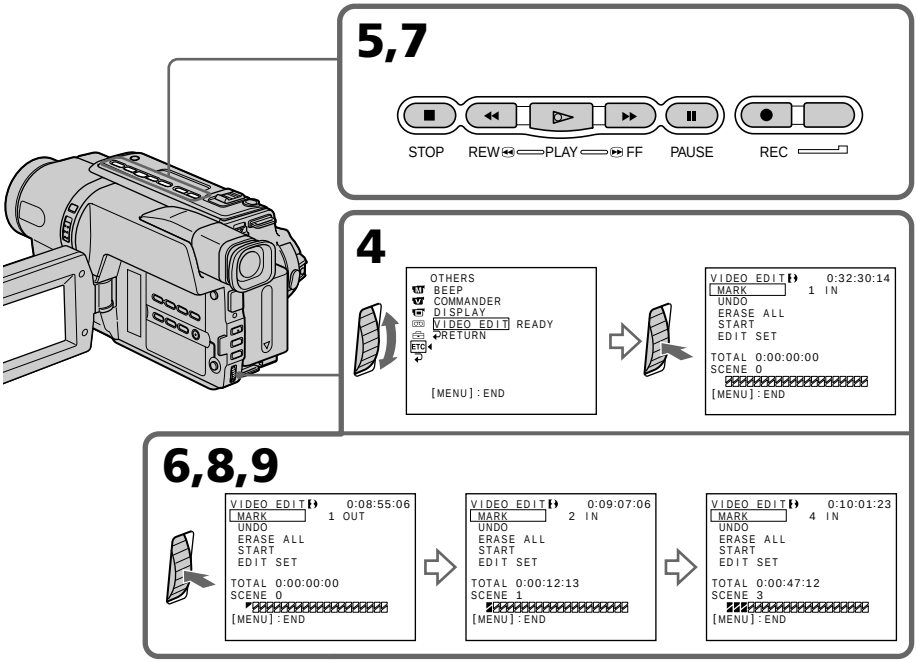
- When you connect with the i.LINK cable (DV connecting cable), you may not be able to operate the dubbing function correctly, depending on the VCR.
  Set CONTROL to IR in the menu settings of your camcorder .
- When you complete step 3, the image to adjust the synchronization is recorded for about 50 seconds.
- If you start recording from the very beginning of the tape, the first few seconds of the tape may not record properly. Be sure to allow about 10 seconds of lead before starting the recording.

If you connect using the i.LINK cable (DV connecting cable)

With a digital-to-digital connection, video and audio signals are transmitted in digital format for high-quality editing.

Operation 1: Making the program

(1) Insert the tape for playback into your camcorder, and insert a tape for recording into the VCR.
(2) Press MENU to display the menu.
(3) Turn the SEL/PUSH EXEC dial to select ETC, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select VIDEO EDIT, then press the dial.
(5) Search for the beginning of the first scene you want to insert using the video operation buttons, then pause playback.
(6) Press the SEL/PUSH EXEC dial.
The IN point of the first program is set, and the top part of the program mark changes to light blue.
(7) Search for the end of the first scene you want to insert using the video operation buttons, then pause playback.
(8) Press the SEL/PUSH EXEC dial.
The OUT point of the first program is set, then the bottom part of the program mark changes to light blue.
(9) Set the program by repeating steps 5 to 8.
When the program is set, the program mark changes to light blue.
You can set a maximum of 20 programs.



Erasing the program you have set

Erase OUT first and then IN from the last set program.

(1) Turn the SEL/PUSH EXEC dial to select UNDO, then press the dial.
The last set program mark flashes.

(2) Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial.
The program mark is cleared and the setting is canceled.

To cancel erasing

Select RETURN in step 2.

Erasing all programs

(1) Select VIDEO EDIT in the menu settings.

(2) Turn the SEL/PUSH EXEC dial to select ERASE ALL, then press the dial.
All the program marks flash.

(3) Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial.
The program marks are cleared and the settings are canceled.

To cancel erasing all programs

Select RETURN in step 3.

To cancel a program you have set

Press MENU.
The program is stored in memory until the tape is ejected.

Note

You cannot operate recording during Digital program editing.

On a blank portion of the tape

You cannot set IN or OUT on a blank portion of the tape.

If there is a blank portion between IN and OUT on the tape

The total time code may not be displayed correctly.

Operation 2: Performing Digital program editing (Dubbing a tape)

Make sure that your camcorder and VCR are connected, and that the VCR is set to recording pause. This procedure is not necessary when you use the i.LINK cable (DV connecting cable).
When you use a digital video camera recorder, set its POWER switch to VCR/VTR.

(1) Select VIDEO EDIT. Turn the SEL/PUSH EXEC dial to select START, then press the dial.

(2) Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial.
Search for the beginning of the first program, then start dubbing.
The program mark flashes.
The SEARCH indicator appears during a search, and the EDITING indicator appears during editing on the screen.
The program mark changes to light blue after dubbing is complete.
When dubbing ends, your camcorder and VCR stop automatically.

To stop dubbing during editing
Press ■ on your camcorder.

To quit the Digital program editing function
Your camcorder stops when dubbing is complete. Then the display returns to VIDEO EDIT in the menu settings.
Press MENU to quit the Digital program editing function.

You cannot record on the VCR when:
– The tape has run out.
– The write-protect tab on the cassette is set to lock.
– The IR SETUP code is not correct. (when IR is selected)
– The button to cancel recording pause is not correct. (when IR is selected)

NOT READY appears on the LCD screen when:
– The program to operate Digital program editing has not yet been made.
– i.LINK is selected but the i.LINK cable (DV connecting cable) is not connected.
– The power of the connected VCR is not turned on. (when you set i.LINK.)

Recording from video

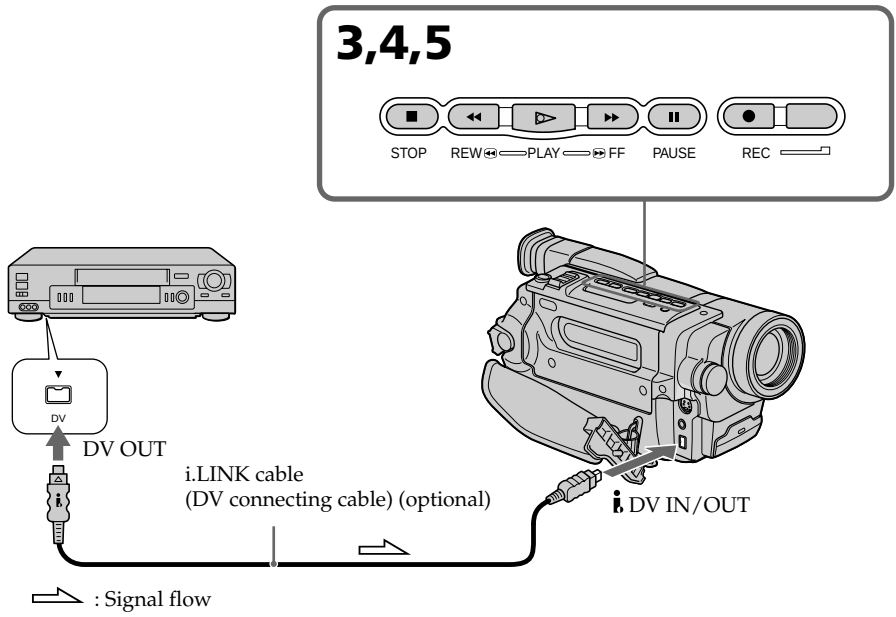
– DCR-TRV140 only

You can record a tape from a VCR that has DV outputs. Use your camcorder as a recorder.
Simply connect the i.LINK cable (DV connecting cable) (optional) to i DV IN/OUT and to DV OUT of the DV products. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing.
You cannot take a picture in when you connect your camcorder with other than the i.LINK cable (DV connecting cable).

Before operation

Set DISPLAY to LCD in the menu settings (the default setting is LCD). Only SP mode is available.

(1) Insert a blank tape (or a tape you want to record over) into your camcorder, and insert the recorded tape into the VCR.
(2) Set the POWER switch to VCR on your camcorder.
(3) Press ● REC and the button on its right simultaneously on your camcorder, then immediately press II on your camcorder.
(4) Press ► on the VCR to start playback.
The picture from a TV or VCR appears on the screen.
(5) Press II on your camcorder at the scene where you want to start recording from.



When you have finished dubbing a tape

Press ■ on both your camcorder and the VCR.

You can connect one VCR only using the i.LINK cable (DV connecting cable).

During digital editing
The color of the display may be uneven. However, this does not affect the dubbed picture.

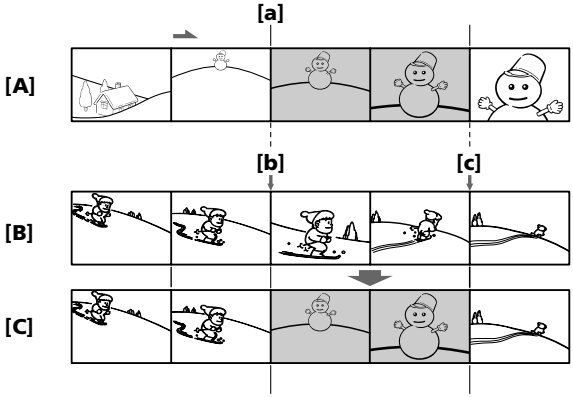
If you record a playback pause picture with the i, DV IN/OUT jack
The recorded picture becomes rough. And when you play back the picture using your camcorder, the picture may jitter.

Before recording
Make sure if the DV IN indicator appears on the screen by pressing DISPLAY. The DV IN indicator may appear on both equipment.

Inserting a scene from a VCR – Insert Editing

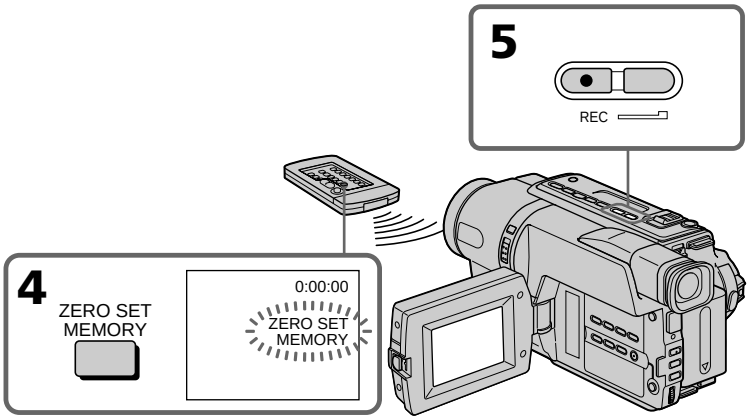
– DCR-TRV140 only

You can insert a new scene from a VCR onto your originally recorded tape using the i.LINK cable (DV connecting cable) (optional) by specifying the insert start and end points.
Use the Remote Commander for this operation.
Connections are the same as in "Recording from video" on page 93. Insert a cassette containing the desired scene into the VCR.
This function is not available when the i.LINK cable (DV connecting cable) is not used.



[A]: A tape that contains the scene to be inserted
[B]: A tape before editing
[C]: A tape after editing

(1) Set the POWER switch to VCR.
(2) On the VCR, locate just before the insert start point **[a]**, then press ❚❚ to set the VCR to the playback pause mode.
(3) On your camcorder, locate the insert end point **[c]** by pressing ◀◀ or ▶▶. Then press ❚❚ to set it to the playback pause mode.
(4) Press ZERO SET MEMORY on the Remote Commander. The ZERO SET MEMORY indicator flashes and the end point of the insert is stored in memory.
(5) On your camcorder, locate the insert start point **[b]** by pressing ◀◀, then press ● REC and the button on its right simultaneously to set your camcorder to the recording pause mode.
(6) First press ❚❚ on the VCR, and after a few seconds press ❚❚ on your camcorder to start inserting the new scene.
Inserting automatically stops near the zero point on the counter. Your camcorder automatically stops. The end point **[c]** of the insert stored in memory is canceled.



To change the insert end point

Press ZERO SET MEMORY on the Remote Commander again after step 5 to erase the ZERO SET MEMORY indicator and begin from step 3.

Note

The picture and sound recorded on the section between the insert start and end points will be erased when you insert the new scene.

When the inserted picture is played back

The picture may be distorted at the end of the inserted section. This is not a malfunction.

To insert a scene without setting the insert end point

Skip step 3 and 4. Press ■ when you want to stop inserting.

Viewing images using your computer – USB Streaming (Windows users only)

– CCD-TRV608, DCR-TRV140 only

If you connect your camcorder and computer by the supplied USB cable, you can view images live from your camcorder and images recorded on a tape on your computer. Furthermore, if you caputure images live from your camcorder and images recorded on a tape to your computer, you can process or edit it by computer software and append it to e-mail.

Using the USB Streaming function

- Installing the USB driver (p. 98).
- Installing "PIXELA ImageMixer Ver.1.0 for Sony" (p. 101).
- Capturing images with "PIXELA ImageMixer Ver.1.0 for Sony" (p. 101).

Recommended computer environment

OS:
Microsoft Windows 98 SE, Windows Me, Windows 2000 Professional, Windows XP Home Edition or Windows XP Professional (standard installation)
However, operation is not assured if the above environment is an upgraded OS.
If you are using Windows 98, you cannot capture sounds.
CPU:
Minimum 500 MHz Intel Pentium III or faster (800 MHz or faster recommended)
Application:
DirectX 8.0a or later
Sound system:
16 bit stereo sound card and speakers
Memory:
64 MB or more
Hard disk:
Minimum 200 MB available hard disk space for installation
1 GB hard disk space or more recommended for working area (depending on the file size of editing the images)
Display:
4 MB VRAM video card, Minimum 800 × 600 dot High color (16 bit color, 65 000 colors), Direct Draw display driver capability (At 800 × 600 dot or less, 256 colors and less, this product will not operate correctly.)
Others:
This product is compatible with DirectX technology, so it is necessary to install DirectX.

The USB connector is provided as standard.

This function is not available on Macintosh.

Notes

- Operations are not guaranteed if you connect 2 or more pieces of USB equipment to a single computer at the same time or when using a hub.
- Depending on the type of USB equipment used simultaneously, some equipment may not operate.
- Operations are not guaranteed for all the recommended computer environments mentioned above.

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- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies.
- Furthermore, "™" or "®" are not mentioned in this manual.

Installing the USB driver

Before connecting your camcorder to your computer, install the USB driver to the computer. The USB driver is contained together with application software for viewing images on the CD-ROM supplied with your camcorder.

Be sure to follow the steps before connecting the USB cable to your computer. Connect the USB cable in step 8.

If the USB driver has been registered incorrectly because your computer was connected to your camcorder before installing the USB driver, reinstall the USB driver following the procedure on page 99.

For Windows 98 SE, Windows Me, Windows 2000 Professional and Windows XP users

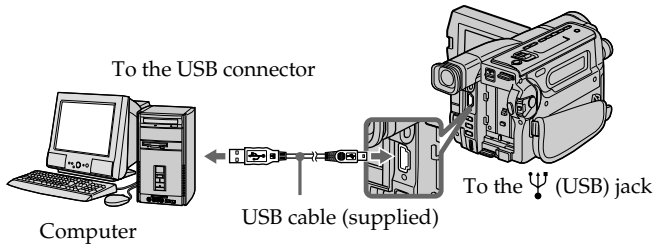
Log in with permission of Administrator (for Windows 2000 Professional and Windows XP users).

(1) Turn on your computer and allow Windows to load.

(2) Insert the supplied CD-ROM into the CD-ROM drive of your computer. The application software screen appears.

(3) Move the cursor to "USB Driver" and click. The USB driver installation starts.

(4) Follow the on-screen messages to install the USB driver.
(5) Connect the AC power adaptor to your camcorder and then to a wall outlet.
(6) Set the POWER switch to CAMERA or VCR (DCR-TRV140)/PLAYER (CCD-TRV608).
(7) Select USB STREAM to ON in in the menu settings (p. 111).
(8) With the CD-ROM inserted, connect the USB jack on your camcorder to the USB connector on your computer using the supplied USB cable.
Your computer recognises the camcorder, and the Windows Add Hardware Wizard starts.



(9) Follow the on-screen messages so that the Add Hardware Wizard recognizes that the USB drivers have been installed. The Add Hardware Wizard starts three times because three different USB drivers are installed. Be sure to allow the installation to complete without interrupting it.

If the "Files Needed" screen appears (Windows 2000 Professional and Windows XP users)
Set the CD-ROM on the CD-ROM driver then select "Browse...." → "My Computer" → "ImageMixer" → "sonyhcb.sys", and click the "OK" button.

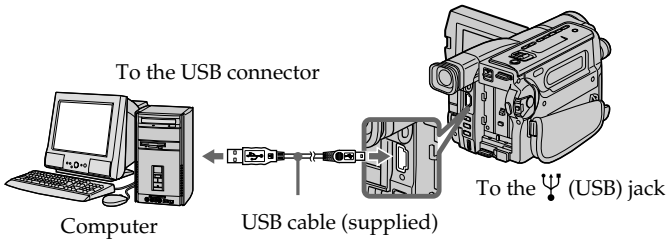
The installation is completed, proceed to Installing "PIXELA ImageMixer Ver.1.0 for Sony" on page 101.

If you cannot install the USB driver

The USB driver has been registered incorrectly as your computer was connected to your camcorder before installing the USB driver. Perform the following procedure to correctly install the USB driver.

Step 1 Uninstall the incorrect USB driver

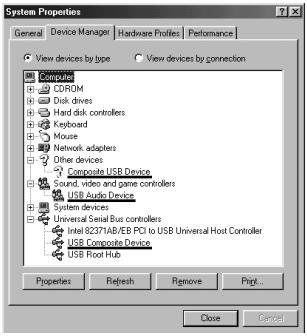
① Turn on your computer and allow Windows to load.
② Connect the USB jack on your camcorder to the USB connector on your computer using the supplied USB cable.



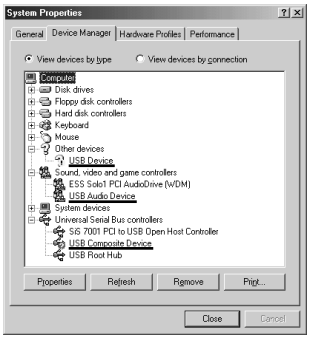
③ Connect the AC power adaptor, and set the POWER switch to CAMERA or VCR (DCR-TRV140)/PLAYER (CCD-TRV608).

④ Open your computer's "Device Manager."
Windows XP:
Select "Start" → "Control Panel" → "System" → "Hardware" tab, and click the "Device Manager" button.
If "System" is not in the control panel, the "Pick a Category" screen appears. In this case, click "Switch to Classic View" instead.
Windows 2000 Professional:
Select "My Computer" → "Control Panel" → "System" → "Hardware" tab, and click the "Device Manager" button.
Windows 98 SE/Windows Me:
Select "My Computer" → "Control Panel" → "System," and click the "Device Manager" tab.

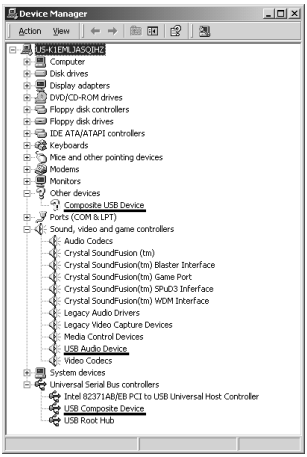
⑤ Select the devices underlined in the illustrations below, and delete them.



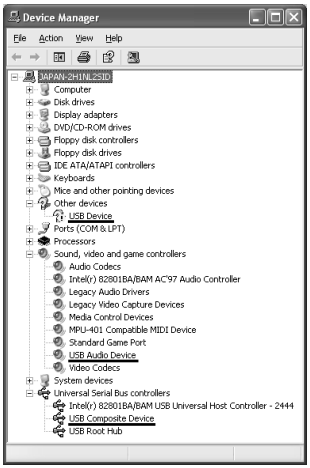
Windows 98 SE



Windows Me



Windows 2000 Professional



Windows XP

⑥ Set the POWER switch to OFF (CHG), and then disconnect the USB cable.
⑦ Reboot your computer.

Step 2 Install the USB driver
Perform the entire procedure listed in "Installing the USB driver" on the page 98.

Installing "PIXELA ImageMixer Ver.1.0 for Sony"

Install "PIXELA ImageMixer Ver.1.0 for Sony" to your computer. "PIXELA ImageMixer Ver.1.0 for Sony" is contained on the CD-ROM supplied with your camcorder. You can view video images easily on your camcorder, using your computer with "PIXELA ImageMixer Ver.1.0 for Sony".

For Windows 2000 Professional users
Log in with permission of Power Users or Administrator.
For Windows XP users
Log in with permission of Administrator.

(1) Turn on your computer and allow Windows to load.
While using your computer, close all running applications.
(2) Insert the supplied CD-ROM into the CD-ROM drive of your computer.
The application software screen appears.
If the application software screen does not appear, double-click "My Computer" and then "ImageMixer" (CD-ROM Drive). The application software screen appears after a while.

(3) Move the cursor to "PIXELA ImageMixer" and click.
The language selection dialogue box appears.
(4) Select the language for installation.
(5) Follow the on-screen messages.

Follow the directions on the screen to install DirectX. DirectX 8.0 will be installed.

Capturing images with "PIXELA ImageMixer Ver.1.0 for Sony"

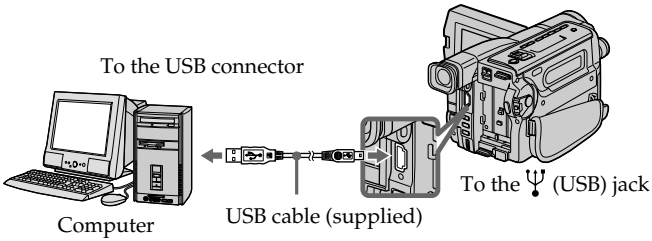
For Windows 2000 Professional users
Log in with permission of Power Users or Administrator.
For Windows XP users
Log in with permission of Administrator.

Viewing images

Viewing images recorded on a tape

(1) Turn on your computer and allow Windows to load.

(2) Connect one end of the USB cable to the USB jack on the camcorder and the other end to the USB connector on your computer using the supplied USB cable.



(3) Connect the AC power adaptor and insert a cassette to your camcorder.

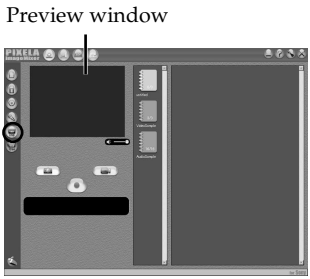
(4) Set the POWER switch to VCR (DCR-TRV140)/PLAYER (CCD-TRV608).

(5) Select USB STREAM to ON in in the menu settings (p. 111).

(6) Select "Start" → "Program" → "Pixela" → "ImageMixer" → "PIXELA ImageMixer Ver.1.0 for Sony" on Windows.

(7) Click the input mode button in the left side of Start-up screen.

(8) Select .



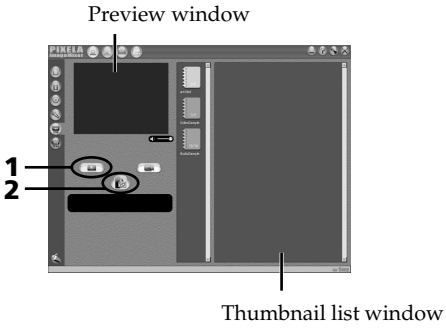
(9) Start playing back a tape on your camcorder. The images recorded on a tape appears in the preview window.

Viewing images live from your camcorder

(1) Follow the procedure **(1)** - **(2)** on page 101, and then connect the AC power adaptor to your camcorder and then to a wall outlet.
(2) Set the POWER switch to CAMERA.
(3) Follow the procedure **(5)** - **(8)** on page 102.
The images live from your camcorder appears in the preview window.

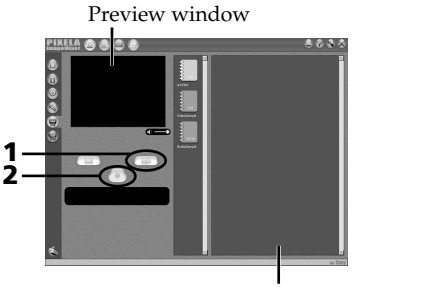
Capturing images

Capturing still images



(1) Select .
(2) Click at the point to capture using the preview window. The captured image appears on the thumbnail list window.

Capturing moving images



(1) Select .
(2) Click at the start point to capture and click at the stop point to capture using the preview window. The captured image appears on the thumbnail list window.

Notes

- When you view images using your computer with the USB connection, the following conditions may occur, but do not indicate malfunction:
  – The image may fluctuate.
  – The image may contain noise, etc.
  – The image does not appear properly if the image signal is of a different TV color system from your camcorder.
- When your camcorder is in the standby mode with a cassette inserted, it turns off automatically after 3 minutes (DCR-TRV140)/5 minutes (CCD-TRV608).
- We recommend setting DEMO MODE to OFF in the menu settings when your camcorder is in the standby mode, and no cassette is inserted.
- Indicators in the camcorder LCD screen do not appear on images that are captured into your computer.

If image data cannot be transferred by the USB connection

The USB driver has been registered incorrectly as your computer was connected to your camcorder before installing the USB driver. Perform the procedure to correctly install the USB driver (p. 98).

If any trouble occurs

Close all running applications, then restart it.

Carry out the following operations after quitting the application:

– disconnect the USB cable
– turn on/off the power

Seeing the on-line help (operation manual) of "PIXELA ImageMixer Ver.1.0 for Sony"

"PIXELA ImageMixer Ver.1.0 for Sony" is provided with on-line help (operation manual).

(1) Click button located in the upper-right corner of the screen.
The ImageMixer's Manual screen appears.

(2) You can access the desired topics from the contents.

To close the on-line help

Click located in the upper right corner of the "ImageMixer's Manual" screen.

If you have any questions about "PIXELA ImageMixer Ver.1.0 for Sony"

ImageMixer Ver.1.0 for Sony is a trademark of PIXELA corporation. Refer to the information web site at: "http://www.imagemixer.com".

Notes on using your computer

Communications with your computer

Communications between your camcorder and your computer may not recover after recovering from Suspend, Resume, or Sleep.

Changing the menu settings

To change the mode settings in the menu settings, select the menu items with the SEL/PUSH EXEC dial. The default settings can be partially changed. First, select the icon, then the menu item and then the mode.

(1) In CAMERA or VCR*1)/PLAYER*2) mode, press MENU.

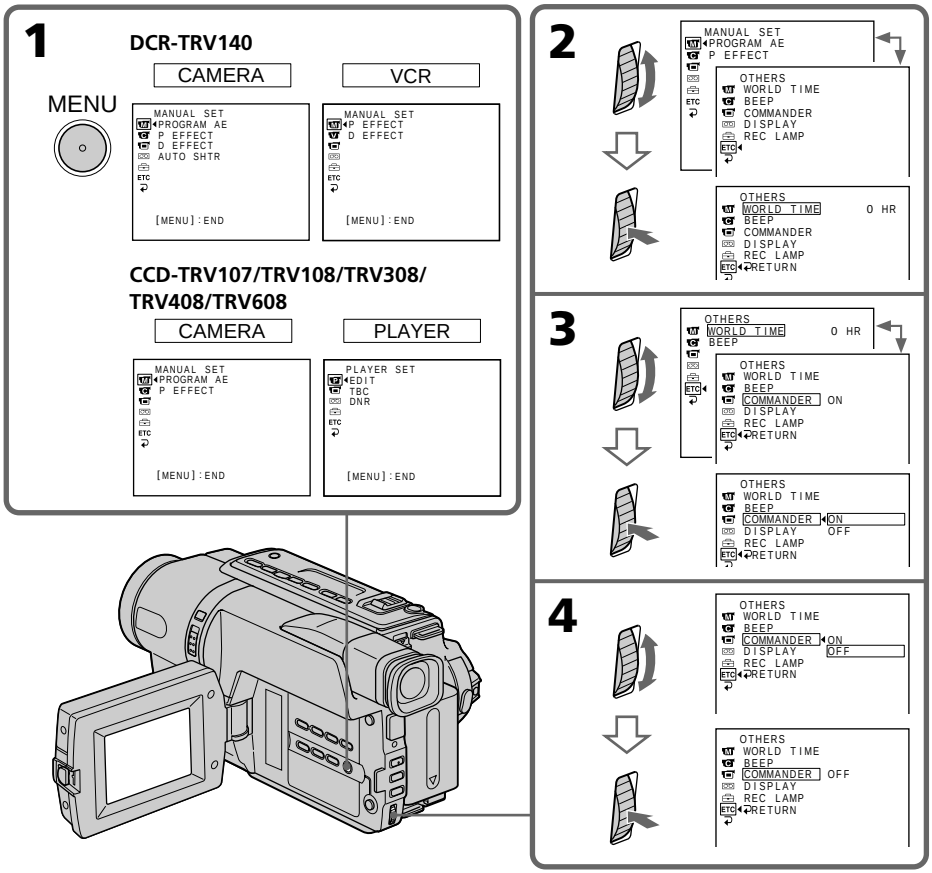
(2) Turn the SEL/PUSH EXEC dial to select the desired icon, then press the dial to set.

(3) Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial to set.

(4) Turn the SEL/PUSH EXEC dial to select the desired mode, and press the dial to set.

(5) If you want to change other items, select ↩ RETURN and press the dial, then repeat steps from 2 to 4.

For details, see "Selecting the mode setting of each item" (p. 106).



To make the menu display disappear

Press MENU.

Menu items are displayed as the following icons:

- MANUAL SET
- CAMERA SET
- VCR SET *1)
- PLAYER SET *2)
- LCD/VF SET
- TAPE SET
- SETUP MENU
- OTHERS

Depending on your camcorder model

The menu display may be different from that in this illustration.

Selecting the mode setting of each item

● is the default setting.

Menu items differ according to the position of the POWER switch.
The screen shows only the items you can operate at the moment.

Icon/item	Mode	Meaning	POWER switch
PROGRAM AE	——	To suit your specific shooting requirement. (p. 50)	CAMERA
P EFFECT	——	To add special effects like those in films or on the TV to images. (p. 46, 64)	VCR*1) CAMERA
D EFFECT *1)	——	To add special effects using the various digital functions. (p. 47, 65)	VCR CAMERA
AUTO SHTR *1)	● ON	To automatically activate the electronic shutter when shooting in bright conditions.	CAMERA
	OFF	To not automatically activate the electronic shutter even when shooting in bright conditions.	
D ZOOM	*3) ● OFF	To deactivate digital zoom. Up to 20× zoom is carried out.	CAMERA
	40×	To activate digital zoom. More than 20× to 40× zoom is performed digitally. (p. 26)	
	560×	To activate digital zoom. More than 20× to 560× zoom is performed digitally. (p. 26)	
	*4) ● OFF	To deactivate digital zoom. Up to 20× zoom is carried out.	
	40×	To activate digital zoom. More than 20× to 40× zoom is performed digitally. (p. 26)	
	460×	To activate digital zoom. More than 20× to 460× zoom is performed digitally. (p. 26)	
	*5) ● OFF	To deactivate digital zoom. Up to 20× zoom is carried out.	
	40×	To activate digital zoom. More than 20× to 40× zoom is performed digitally. (p. 26)	
	450×	To activate digital zoom. More than 20× to 450× zoom is performed digitally. (p. 26)	

Icon/item		Mode	Meaning	POWER switch
16:9WIDE	*1)	● OFF	—	CAMERA
		ON	To record a 16:9wide picture. (p. 41)	
	*2)	● OFF	—	
		CINEMA	To record in the CINEMA mode. (p. 41)	
		16:9FULL	To record in the 16:9FULL mode.	
STEADYSHOT	*6)	● ON	To compensate for camera-shake.	CAMERA
		OFF	To cancel the SteadyShot function. Natural pictures are produced when shooting a stationary object with a tripod.	
N.S.LIGHT		● ON	To use the NightShot Light function. (p. 30)	CAMERA
		OFF	To cancel the NightShot Light function.	
FRAME REC	*1)	● OFF	To deactivate Cut recording function.	CAMERA
		ON	To activate Cut recording function. (p. 56)	
INT. REC	*1)	ON	To activate Interval recording function. (p. 54)	CAMERA
		● OFF	To deactivate Interval recording function.	
		SET	To set waiting time and recording time for Interval recording function. (p. 54)	

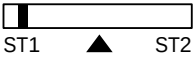
Notes on the SteadyShot function (CCD-TRV308/TRV408/TRV608, DCR-TRV140 only)

- The SteadyShot function will not correct excessive camera-shake.
- Attachment of a conversion lens (optional) may influence the SteadyShot function.
- SteadyShot does not operate in the 16:9FULL mode. If you set STEADYSHOT to ON in the menu settings, the "✋" indicator flashes.*6)

If you cancel the SteadyShot function (CCD-TRV308/TRV408/TRV608, DCR-TRV140 only)

The SteadyShot off indicator "✋OFF" appears. Your camcorder prevents excessive compensation for camera-shake.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*3) CCD-TRV408/TRV608, DCR-TRV140 only
*4) CCD-TRV108/TRV308 only
*5) CCD-TRV107 only
*6) CCD-TRV308/TRV408/TRV608 only

Icon/item	Mode	Meaning	POWER switch
VCR *1) **HiFi SOUND**	● STEREO	To play back a stereo tape or dual sound track tape with main and sub sound.	VCR
	1	To play back a stereo tape with the left sound or a dual sound track tape with main sound.	
	2	To play back a stereo tape with the right sound or a dual sound track tape with sub sound.	
AUDIO MIX	——	To adjust the balance between stereo 1 and stereo 2. 	VCR
PLAYER *2) **EDIT**	● OFF	—	PLAYER
	ON	To minimize picture deterioration when editing.	
TBC	● ON	To correct jitter.	PLAYER
	OFF	To not correct jitter. Set TBC to OFF when playing back a tape on which you have dubbed over and recorded the signal of a TV game or similar machine.	
TBC stands for "Time Base Corrector."			
DNR	● ON	To reduce picture noise.	PLAYER
	OFF	To reduce a conspicuous afterimage when the picture has a lot of movement.	
DNR stands for "Digital Noise Reduction."			

Note on AUDIO MIX (DCR-TRV140 only)
When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance.

In more than 5 minutes after removing the power source (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)
The "EDIT" item is returned to their default settings.
The other menu items are held in memory even when the battery is removed.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
LCD BRIGHT	——	To adjust the brightness on the LCD screen with the SEL/PUSH EXEC dial to adjust the following bar.	VCR*1)/ PLAYER*2) CAMERA
LCD B. L.	● BRT NORMAL	To set the brightness on the LCD screen normal.	VCR*1)/ PLAYER*2) CAMERA
	BRIGHT	To brighten the LCD screen.	
LCD COLOR	——	To adjust the color on the LCD screen, turn the SEL/PUSH EXEC dial to adjust the following bar.	VCR*1)/ PLAYER*2) CAMERA
VF B.L.*3)	● BRT NORMAL	To set the brightness on the viewfinder screen normal.	VCR*1)/ PLAYER*4) CAMERA
	BRIGHT	To brighten the viewfinder screen.	

Notes on VF B.L.*3) and LCD B.L.

- When you select BRIGHT, battery life is reduced by about 10 percent during recording.
- When you use power sources other than the battery pack, BRIGHT is automatically selected.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*3) CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only
*4) CCD-TRV107/TRV308/TRV408/TRV608 only

Icon/item	Mode	Meaning	POWER switch
REC MODE	● SP	To record in the SP (Standard Play) mode.	CAMERA
	LP	To increase the recording time to 1.5 times*1)/ twice*2) the SP mode.	
AUDIO MODE*1)	● 12BIT	To record in the 12-bit mode (two stereo sounds).	CAMERA
	16BIT	To record in the 16-bit mode (the one stereo sound with high quality).	
ORC TO SET*2)	——	To automatically adjust the recording condition to get the best possible recording. Press START/STOP to start adjustment. Your camcorder takes about 10 seconds to check the tape condition and then returns to the standby mode.	CAMERA

ORC stands for "Optimizing the Recording Condition."

Icon/item	Mode	Meaning	POWER switch
REMAIN	● AUTO	To display the remaining tape bar: – for about 8 seconds after your camcorder is turned on and calculates the remaining amount of tape. – for about 8 seconds after a cassette is inserted and your camcorder calculates the remaining amount of tape. – for about 8 seconds after ► is pressed in VCR*1)/PLAYER*2) mode. – for about 8 seconds after DISPLAY is pressed to display the screen indicators. – for the period of tape rewinding, forwarding or picture search in VCR*1)/PLAYER*2) mode.	VCR*1)/ PLAYER*2) CAMERA
	ON	To always display the remaining tape bar.	
DATA CODE*1)	● DATE/CAM	To display date, time and recording data during playback.	VCR
	DATE	To display date and time during playback.	

Notes on the LP mode

- When you record a tape in the LP mode on your camcorder, we recommend playing back the tape on your camcorder. When you play back the tape on other camcorders or VCRs, noise may occur in images or sound.
- When you record in the LP mode, we recommend using a Sony video cassette so that you can get the most out of your camcorder.
- When you record in both the SP and LP modes on one tape, or you record some scenes in the LP mode, the playback image may be distorted or the time code may not be written properly between scenes.*1)
- Noise may occur also when you play back on your camcorder tapes recorded in the LP mode on other camcorders or VCRs.*2)
- When you record a tape in the LP mode on your camcorder, recording is carried out in the standard 8 mm system.*2)

Note on AUDIO MODE (DCR-TRV140 only)

When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance in AUDIO MIX.

Notes on ORC setting (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)

- Each time you eject the cassette, the ORC setting will be canceled. If necessary, set the setting.
- You cannot use this setting on a tape with the red mark on the cassette exposed. (i. e. the tape is write-protected)
- When you set ORC TO SET, a non-recorded section of about 0.1 seconds appears on the tape. However, note that this non-recorded section disappears from the tape when you continue recording from this section.
- To check if you have already set the ORC setting, select ORC TO SET in the menu settings. "ORC ON" is displayed if ORC TO SET is already set.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Icon/item	Mode	Meaning	POWER switch
CLOCK SET	——	To set the date or time. (p. 19)	CAMERA
USB STREAM*1)	● OFF	To deactivate the USB Streaming function.	VCR*2)/ PLAYER*3) CAMERA
	ON	To activate the USB Streaming function.	
AUTO DATE*4)	● ON	To record the date for 10 seconds after recording has started.	CAMERA
	OFF	To cancel the auto date function.	
LTR SIZE	● NORMAL	To display selected menu items in normal size.	VCR*2)/ PLAYER*4) CAMERA
	2×	To display selected menu items at twice the normal size.	
LANGUAGE	● ENGLISH	To display the following information indicators in English: REC, STBY, min, CAPTURE*2), END SEARCH, START, and VOL.	VCR*2)/ PLAYER*4) CAMERA
	FRANÇAIS	To display the information indicators in French.	
	ESPAÑOL	To display the information indicators in Spanish.	
	PORTUGUÊS	To display the information indicators in Portuguese.	
	中文	To display the information indicators in Chinese.	
	한국어	To display the information indicators in Korean.	
DEMO MODE	● ON	To make the demonstration appear.	CAMERA
	OFF	To cancel the demonstration mode.	

Notes on DEMO MODE

- You cannot select DEMO MODE when a cassette is inserted in your camcorder.
- DEMO MODE is set to STBY (Standby) at the factory and the demonstration starts about 10 minutes after you have set the POWER switch to CAMERA without a cassette inserted.
  To cancel the demonstration, insert a cassette, set the POWER switch to other than CAMERA, or set DEMO MODE to OFF.
- When NIGHTSHOT is set to ON, ⊙ "NIGHTSHOT" indicator appears on the screen and you cannot select DEMO MODE in the menu settings.

*1) CCD-TRV608, DCR-TRV140 only
*2) DCR-TRV140 only
*3) CCD-TRV608 only
*4) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Icon/item	Mode	Meaning	POWER switch
ETC **WORLD TIME**	——	To set the clock to the local time. Turn the SEL/PUSH EXEC dial to set the time difference. The clock changes by the time difference you set here. If you set the time difference to 0, the clock returns to the originally set time.	CAMERA
BEEP	● MELODY	To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder.	VCR*1)/ PLAYER*2) CAMERA
	NORMAL	To output the beep instead of the melody.	
	OFF	To cancel the melody and beep sound.	
COMMANDER*3)	● ON	To activate the Remote Commander supplied with your camcorder.	VCR*1)/ PLAYER*4) CAMERA
	OFF	To deactivate the Remote Commander to avoid unintentional operation caused by other VCR's remote control.	
DISPLAY	● LCD	To show the display on the LCD screen and in the viewfinder.	VCR*1)/ PLAYER*2) CAMERA
	V-OUT/LCD	To show the display on the TV screen, LCD screen, and in the viewfinder.	
REC LAMP	● ON	To light up the camera recording lamp at the front of your camcorder when recording.	CAMERA
	OFF	To turn the camera recording lamp off so that the subject is not aware of the recording.	
VIDEO EDIT*1)	——	To make programs and perform video editing. (p. 83)	VCR

In more than 5 minutes after removing the power source

The AUDIO MIX*1), COMMANDER*3) and HiFi SOUND*1) items are returned to their default settings.

The other menu items are held in memory even when the battery is removed.

Recording a close-up picture

When REC LAMP is set to ON, the red camera recording lamp on the front of the camcorder may reflect on the subject if it is close. In this case, we recommend you set REC LAMP to OFF.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*3) CCD-TRV107/TRV408, DCR-TRV140 only
*4) CCD-TRV107/TRV408 only

Types of trouble and their solutions

If you run into any problem using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer or local authorized Sony service facility. If "C:□□:□□" appears on the screen, the self-diagnosis display function has worked. See page 118.

In the recording mode

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	• The POWER switch is set to OFF (CHG) or VCR*1)/PLAYER*2). → Set it to CAMERA. (p. 23) • The tape has run out. → Rewind the tape or insert a new one. (p. 21, 22) • The write-protect tab is set to expose the red mark. → Use a new tape or slide the tab. (p. 22) • The tape is stuck to the drum (moisture condensation). → Remove the cassette and leave your camcorder for at least 1 hour to acclimate. (p. 129)
The power goes off.	• While being operated in CAMERA mode, your camcorder has been in the standby mode for more than 3 minutes*1)/5 minutes*2). → Set the POWER switch to OFF (CHG) and then to CAMERA again. (p. 23) • The battery pack is dead or nearly dead. → Install a fully charged battery pack. (p. 13, 14)
The image on the viewfinder screen is not clear.	• The viewfinder lens is not adjusted. → Adjust the viewfinder lens. (p. 27)
The SteadyShot function does not work.*3)	• STEADYSHOT is set to OFF in the menu settings. → Set it to ON. (p. 107) • 16:9WIDE is set to ON in the menu settings.*1) → Set it to OFF. • The wide mode is set to 16:9FULL.*4) → Set it to OFF. (p. 107)
The autofocusing function does not work.	• The setting is the manual focus mode. → Press FOCUS to return to the autofocus mode. (p. 53) • Shooting conditions are not suitable for autofocus. → Adjust to focus manually. (p. 53)
The ⊗ indicator flashes in the viewfinder.*2)	• The video heads may be dirty. → Clean the heads using the Sony V8-25CLD cleaning cassette (optional). (p. 130)
The picture does not appear in the viewfinder.	• The LCD panel is open. → Close the LCD panel. (p. 24)
A vertical band appears when you shoot a subject such as lights or a candle flame against a dark background.	• The contrast between the subject and background is too high. This is not a malfunction.
A vertical band appears when you shoot a very bright subject.	• This is not a malfunction.
Some tiny white spots appear on the screen.*1)	• The Slow Shutter, Super NightShot or Color Slow Shutter mode is activated. This is not a malfunction.

(Continued on the following page)

Symptom	Cause and/or Corrective Actions
An unknown picture is displayed on the screen.	• If 10 minutes elapse after you set the POWER switch to CAMERA or DEMO MODE is set to ON in the menu settings without a cassette inserted, your camcorder automatically starts the demonstration. → Insert a cassette and the demonstration stops. You can also cancel DEMO MODE. (p. 111)
The picture is recorded in incorrect or unnatural colors.	• NIGHTSHOT is set to ON. → Set it to OFF. (p. 29)
The picture appears too bright, and the subject does not appear on the screen.	• NIGHTSHOT is set to ON in a bright place. → Set it to OFF, or use the NightShot function in a dark place. (p. 29) • The backlight function is working. → Cancel it. (p. 29)
A horizontal black band appears when shooting a TV screen or computer screen.*3)	• Set STEADYSHOT to OFF in the menu setting. (P. 107)

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*3) CCD-TRV308/TRV408/TRV608, DCR-TRV140 only
*4) CCD-TRV308/TRV408/TRV608 only

In the playback mode

Symptom	Cause and/or Corrective Actions
The picture does not appear on the screen when playing back a tape.*1)	• The tape is recorded in the Hi8 Hi 8/Standard 8 mm 8 (analog) system.
The tape does not move when a video control button is pressed.	• The POWER switch is set to CAMERA or OFF (CHG). → Set it to VCR*1)/PLAYER*2). (p. 33)
The playback button does not work.	• The tape has run out. → Rewind the tape. (p. 33)
The playback picture is not clear or does not appear.*2)	• The television's video channel is not adjusted correctly. → Adjust it. (p. 38) • EDIT is set to ON in the menu settings. → Set it to OFF. (p. 108) • The video head may be dirty. → Clean the heads using the Sony V8-25CLD cleaning cassette (optional). (p. 130)
There are horizontal lines on the picture or the playback picture is not clear or does not appear.*1)	• The video head may be dirty. → Clean the heads using the Sony V8-25CLD cleaning cassette (optional). (p. 130)
No sound or only a low sound is heard when playing back a tape.	• The stereo tape is played back with HiFi SOUND set to 2 in the menu settings.*1) → Set it to STEREO. (p. 108) • The volume is turned to minimum. → Open the LCD panel and press VOLUME +. (p. 33) • AUDIO MIX is set to ST2 side in the menu settings.*1) → Adjust AUDIO MIX. (p. 108)

Types of trouble and their solutions

Symptom	Cause and/or Corrective Actions
The date search does not work correctly.*1)	• The tape has a blank portion in the recorded portion. (p. 69)
The new sound added to the recorded tape is not heard.*1)	• AUDIO MIX is set to ST1 side in the menu settings. → Adjust AUDIO MIX. (p. 108)

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

In the recording and playback modes

Symptom	Cause and/or Corrective Actions
The power does not turn on.	• The battery pack is not installed, or is dead or nearly dead. → Install a charged battery pack. (p. 13, 14) • The AC power adaptor is not connected to a wall outlet. → Connect the AC power adaptor to a wall outlet. (p. 18)
The end search function does not work.	• The tape was ejected after recording. • You have not recorded on the cassette yet.
The end search function does not work correctly.*1)	• The tape has a blank portion in the beginning or middle.
The battery pack discharges quickly.	• The operating temperature is too low. • The battery pack is not fully charged. → Charge the battery pack fully again. (p. 13, 14) • The battery pack is completely dead, and cannot be recharged. → Replace with a new battery pack. (p. 13)
The remaining battery time indicator does not indicate the correct time.	• You have used the battery pack in an extremely hot or cold environment for a long time. • The battery pack is completely dead, and cannot be recharged. → Replace with a new battery pack. (p. 13) • The battery pack is not fully charged. • A deviation has occurred in the remaining battery time. → Charge the battery pack fully again. (p. 13, 14)
The power goes off although the remaining battery time indicator indicates that the battery pack has enough power to operate.	• A deviation has occurred in the remaining battery time. → Charge the battery pack fully again so that the indication on the battery remaining indicator is correct. (p. 13, 14)
The cassette cannot be removed from the holder.	• The power source is disconnected. → Connect it firmly. (p. 13, 18) • The battery pack is dead. → Use a charged battery pack. (p. 13, 14)
The ⏏ and ⏏ indicators flash and no functions except for cassette ejection work.	• Moisture condensation has occurred. → Remove the cassette and leave your camcorder for at least 1 hour to acclimate. (p. 129)
The remaining tape indicator is not displayed.	• The REMAIN is set to AUTO in the menu settings. → Set it to ON to always display the remaining tape indicator.

*1) DCR-TRV140 only

(Continued on the following page)

Others

Symptom	Cause and/or Corrective Actions
Easy Dubbing does not function.*1)	• Your VCR and/or video camera recorder is not set correctly. ➔ Make sure the input selector of the VCR is set to LINE. Also,make sure the power switch of the video camera is set to VTR/VCR. (p. 76) • The IR SETUP code or PAUSE MODE is not set correctly. ➔ Select the correct IR SETUP code and PAUSE MODE, according to your VCR. Then confirm VCR operation with the IR TEST function. (p. 76)
Digital program editing does not function.*2)	• The input selector on the VCR is not set correctly. ➔ Set the selector correctly, and check the connection between the VCR and your camcorder. (p. 83) • The camcorder is connected to DV equipment other than of Sony using the i.LINK cable (DV connecting cable). ➔ Keep the connection, and follow the procedure on page 87. • Setting program on a blank portion of the tape is attempted. ➔ Set the program again on a recorded portion. (p. 91) • The synchronization of your camcorder and the VCR is not adjusted. ➔ Adjust the synchronization of the VCR. (p. 88)
You cannot install the USB driver.*3)	• Your camcorder was connected to your computer with the USB cable before installing the USB driver, so the driver was not recognized by the computer. ➔ Uninstall the unrecognized driver, and then reinstall the driver. (p. 99)
USB Streaming function does not work.*3)	• The USB driver is not installed correctly. ➔ Uninstall the unrecognized driver, and then reinstall the driver. (p. 99) • Your computer's operating system is Windows 98 or earlier. • The USB cable was not connected before starting up the application software. ➔ Connect the USB cable before starting up the application software. (p. 101)
The Remote Commander supplied with your camcorder does not work.*4)	• COMMANDER is set to OFF in the menu settings. ➔ Set it to ON. (p. 112) • Something is blocking the infrared rays. ➔ Remove the obstacle. • The batteries are inserted in the battery holder with the + – polarities incorrectly matching the + – marks. ➔ Insert the batteries with the correct polarity. (p. 141) • The batteries are dead. ➔ Insert new ones. (p. 141)

Types of trouble and their solutions

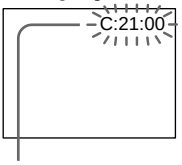
Symptom	Cause and/or Corrective Actions
The melody or beep sounds for 5 seconds.	• Moisture condensation has occurred. ➔ Remove the cassette and leave your camcorder for at least 1 hour to acclimate. (p. 129) • Some troubles have occurred in your camcorder. ➔ Remove the cassette and insert it again, then operate your camcorder.
No function works though the power is on.	• Disconnect the power cord of the AC power adaptor or remove the battery pack, then reconnect it after about 1 minute. Turn the power on (p. 13, 18). If the functions still do not work, press RESET using a sharp-pointed object. (If you press RESET, all the settings including the date and time return to the default.) (p. 140)
While charging the battery pack, no indicator appears or the indicator flashes in the display window.	• The AC power adaptor is disconnected. ➔ Connect it firmly. (p. 18) • The battery pack is not installed properly. ➔ Install it properly. • Something is wrong with the battery pack. ➔ Contact your Sony dealer or local authorized Sony service facility.
You cannot charge the battery pack installed to your camcorder.	• The POWER switch is not set to OFF (CHG). ➔ Set it to OFF (CHG).
The date or time indicator does not appear, and the bars "– –:– –:– –" appear.	• Set the date and time. (p. 19)

*1) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*2) DCR-TRV140 only
*3) CCD-TRV608, DCR-TRV140 only
*4) CCD-TRV107/TRV408, DCR-TRV140 only

Self-diagnosis display

Your camcorder has a self-diagnosis display function.
This function displays the current condition of your camcorder as a 5-digit code (a combination of a letter and figures) on the LCD screen, in the viewfinder or in the display window.
If a 5-digit code is displayed, check the following code chart. The last two digits (indicated by ☐☐) will differ depending on the state of your camcorder.

LCD screen, viewfinder or display window



Self-diagnosis display

- C:☐☐:☐☐
  You can service your camcorder yourself.
- E:☐☐:☐☐
  Contact your Sony dealer or local authorized Sony service facility.

Five-digit display	Cause and/or Corrective Actions
C:04:☐☐	• You are using a battery pack that is not an "InfoLITHIUM" battery pack. ➔ Use an "InfoLITHIUM" battery pack. (p. 124)
C:21:☐☐	• Moisture condensation has occurred. ➔ Remove the cassette and leave your camcorder for at least 1 hour to acclimate. (p. 129)
C:22:☐☐	• The video heads are dirty. ➔ Clean the heads using the Sony V8-25CLD cleaning cassette (optional). (p. 130)
C:31:☐☐ C:32:☐☐	• A malfunction other than the above that you can service has occurred. ➔ Remove the cassette and insert it again, then operate your camcorder. ➔ Disconnect the power cord of the AC power adaptor or remove the battery pack. After reconnecting the power source, operate your camcorder.
E:20:☐☐ E:61:☐☐ E:62:☐☐	• A malfunction that you cannot service has occurred. ➔ Contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code. (example: E:61:10)

If you are unable to rectify the problem even if you try corrective actions a few times, contact your Sony dealer or local authorized Sony service facility.

Warning indicators and messages

If indicators and messages appear on the screen or in the display window, check the following:
See the page in parentheses "( )" for more information.

Warning indicators

The video heads are dirty[*1]
Slow flashing:
– You need to clean the heads using the Sony V8-25CLD cleaning cassette (optional). (p. 130)

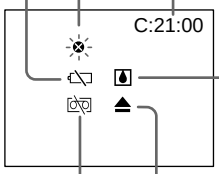
The battery pack is dead or nearly dead
Slow flashing:
– The battery pack is nearly dead. (P. 14)

Depending on conditions, the environment or the battery pack, the warning indicator may flash, even if there are 5 to 10 minutes battery remaining.

Fast flashing:
– The battery pack is dead.
– The battery pack is completely dead, and cannot be charged.[*1]

Tape warning indicator
Slow flashing:
– The tape is near the end.
– No tape is inserted.[*2]
– The write-protect tab on the cassette is out (red).[*2] (p. 22)

Fast flashing:
– The tape has run out.[*2]



Self-diagnosis display (p. 118)

Moisture condensation has occurred[*2]
Fast flashing:
– Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open. (p. 129)

You need to eject the cassette[*2]
Slow flashing:
– The write-protect tab on the cassette is out (red). (p. 22)

Fast flashing:
– Moisture condensation has occurred. (p. 129)
– The tape has run out.
– The self-diagnosis display function is activated. (p. 118)

Tape/Battery pack warning indicator[*3]
Slow flashing:
– The battery pack is nearly dead.
– The tape is near the end.

Fast flashing:
– The battery pack is dead.
– The tape has run out.[*2]

[*1] CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
[*2] You hear the melody or beep sound.
[*3] This indicator appears in the viewfinder only.

Warning messages

• CLOCK SET	Set the date and time. (p. 19)
• FOR "InfoLITHIUM" BATTERY ONLY	Use an "InfoLITHIUM" battery pack. (p. 124)
• NO TAPE *1)	Insert a cassette tape.
• CLEANING CASSETTE *2)	The video heads are dirty. (p. 130)

– CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

• TAPE END *1)	The tape has reached the end.
• START/STOP KEY	Press START/STOP to activate the ORC setting. This message is displayed in white. (p. 109)
• ORC	The ORC setting is working. This message is displayed in white. (p. 109)

– DCR-TRV140 only

• ⏏ TAPE END *1)	The tape has reached the end.
• COPY INHIBIT *1)	You tried to record a picture that has a copyright control signal. (p. 121)

*1) You hear the melody or beep sound.

*2) The ⊗ indicator and "CLEANING CASSETTE" message appear one after another on the screen.

About video cassettes

– DCR-TRV140

What is the "Digital8 system"?

This video system has been developed to enable digital recording to Hi8 Hi8/Digital8 video cassette.

Usable cassette tapes

We recommend using Hi8 Hi8/Digital8 video cassettes.
If you use standard 8 mm 8 tape, be sure to play back the tape on this camcorder. Mosaic noise may appear if you play back standard 8 mm 8 tape on other VCRs (including other DCR-TRV140).

Note

Tapes recorded in the Digital8 system cannot be played back a Hi8 Hi8/standard 8 mm 8 (analog) system machine.

8 is a trademark.
Hi8 is a trademark.
is a trademark.

Playback system

You can play back tapes recorded only in the Digital8 system.
Tapes recorded in the Hi8 Hi8/standard 8 mm 8 (analog) system cannot be played back with your camcorder.

When you play back

Playing back on a PAL-recorded tape

You can play back tapes recorded in the PAL video system on the LCD screen*, if the tape is recorded in the SP mode.
* The picture appears neither in the viewfinder nor on the TV.

Copyright signal

When you play back

Using any other video camera recorder, you cannot record on a tape that has recorded copyright control signals for copyright protection of software which is played back on your camcorder.

When you record

You cannot record software on your camcorder that contains copyright control signals for copyright protection of software.
COPY INHIBIT appears on the LCD screen, in the viewfinder or on the TV screen if you try to record such software. Your camcorder does not record copyright control signals on the tape when it records.

When you play back a dual sound track tape

When you play back a tape which is dubbed from a dual sound track tape recorded in the DV system, set HiFi SOUND to the desired mode in the menu settings (p. 108).

Sound from speaker

HiFi Sound Mode	Playing back a stereo tape	Playing back a dual sound track tape
STEREO	Stereo	Main sound and sub sound
1	Lch	Main sound
2	Rch	Sub sound

You cannot record dual sound programs on your camcorder.

– CCD-TRV107/TRV108/TRV308/TRV408/TRV608

Selecting the cassette type

You can use both Hi8 Hi8 and standard 8 mm 8 video cassettes on your camcorder. When you use a Hi8 Hi8 video cassette, recording and playback are carried out in the Hi8 Hi8 system. When you use a standard 8 mm 8 video cassette, recording and playback are carried out in the standard 8 mm 8 system.
However, if you record on a Hi8 Hi8 video cassette in the LP mode, recording is carried out in the standard 8 mm 8 system.
If you play back a tape recorded on a different video recorder on your camcorder, the playback mode is automatically selected according to the format in which the tape has been recorded.

This Hi8 Hi8 system is an extension of the standard 8 mm 8 system, and was developed to produce higher quality pictures.
You cannot play back a tape recorded in the Hi8 Hi8 system correctly on video recorders/players other than a Hi8 video recorder/player.

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Hi8 is a trademark.

When you play back

The playback mode (SP/LP) and system, Hi8 Hi8 or standard 8 mm 8 are automatically selected according to the format in which the tape has been recorded. The quality of the recorded picture in the LP mode, however, will not be as good as the SP mode.

Foreign 8 mm video

Because TV color systems differ from country to country, you may not be able to play back foreign pre-recorded tapes. Refer to “Using your camcorder abroad” (p. 128) to check the TV color systems used in foreign countries.

About the “InfoLITHIUM” battery pack

What is the “InfoLITHIUM” battery pack?

The “InfoLITHIUM” battery pack is a lithium-ion battery pack that has functions for communicating information related to operating conditions between your camcorder and the AC adaptor/charger (optional).
The “InfoLITHIUM” battery pack calculates the power consumption according to the operating conditions of your camcorder, and displays the remaining battery time in minutes.

Charging the battery pack

- Be sure to charge the battery pack before you start using your camcorder.
- We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F) until FULL appears indicating the battery pack is fully charged, in the display window. If you charge the battery pack outside of this temperature range, you may not be able to efficiently charge the battery pack.
- After charging is completed, either disconnect the cable from the DC IN jack on your camcorder or remove the battery pack.

Effective use of the battery pack

- Battery performance decreases in low-temperature surroundings. So, the time that the battery pack can be used is shorter in cold places. We recommend the following to use the battery pack longer:
  – Put the battery pack in a pocket to warm it up, and insert it in your camcorder immediately before you start taking shots.
  – Use the large capacity battery pack (NP-FM50/FM70/QM71/FM90/FM91/QM91 optional).
- Frequently using the LCD panel or frequently operating playback, fast forward or rewind wears out the battery pack faster. We recommend using the large capacity battery pack (NP-FM50/FM70/QM71/FM90/FM91/QM91 optional).
- Be certain to turn the POWER switch to OFF (CHG) when not taking shots or playing back on your camcorder. Battery pack power is also consumed when your camcorder is in the standby mode or playback is paused.
- Have spare battery packs handy for two or three times the expected recording time, and make a trial recording before the actual recording.
- Do not expose the battery pack to water. The battery pack is not water-resistant.

Remaining battery time indicator

- If the power goes off although the remaining battery time indicator indicates that the battery pack has enough power to operate, charge the battery pack fully again so that the indication on the remaining battery time indicator is correct. Note, however, that the correct battery indication sometimes will not be restored if it is used in high temperatures for a long time or left in a fully charged state, or the battery pack is frequently used. Regard the remaining battery time indication as approximate.
- The mark, indicating there is little remaining battery time, sometimes flashes depending on the operating conditions or ambient temperature and environment even if the remaining battery time is 5 to 10 minutes.

How to store the battery pack

- If the battery pack is not used for a long time, do the following once a year to maintain proper function.
  1. Fully charge the battery pack.
  2. Discharge on your camcorder.
  3. Remove the battery pack from your camcorder and store it in a dry, cool place.
- To discharge the battery pack on your camcorder, leave your camcorder in CAMERA (standby) mode without a cassette inserted until the power goes off.

Battery life

- The battery life is limited. Battery capacity drops little by little as you use it more and more, and as time passes. When the available battery time is shortened considerably, a probable cause is that the battery pack has reached the end of its life. Please buy a new battery pack.
- The battery life varies according to storage and operating conditions, and environment for each battery pack.

About i.LINK

– DCR-TRV140 only

The DV jack on this unit is an i.LINK-compliant DV input/output jack. This section describes the i.LINK standard and its features.

What is “i.LINK”?

i.LINK is a digital serial interface for handling digital video, digital audio and other data in two directions between equipment having the i.LINK jack, and for controlling other equipment.
i.LINK-compatible equipment can be connected by a single i.LINK cable. Possible applications are operations and data transactions with various digital AV equipment. When two or more i.LINK-compatible equipment are connected to this unit in a daisy chain, operations and data transactions are possible with not only the equipment that this unit is connected to but also with other devices via the directly connected equipment.
Note, however, that the method of operation sometimes varies according to the characteristics and specifications of the equipment to be connected, and that operations and data transactions are sometimes not possible on some connected equipment.

Note

Normally, only one piece of equipment can be connected to this unit by the i.LINK cable (DV connecting cable). When connecting this unit to i.LINK-compatible equipment having two or more i.LINK jacks (DV jacks), refer to the instruction manual of the equipment to be connected.

About the Name “i.LINK”

i.LINK is a more familiar term for IEEE 1394 data transport bus proposed by SONY, and is a trademark approved by many corporations.
IEEE 1394 is an international standard standardized by the Institute of Electrical and Electronic Engineers.

i.LINK Baud rate

i.LINK's maximum baud rate varies according to the equipment. Three maximum baud rates are defined:

S100 (approx. 100Mbps*)
S200 (approx. 200Mbps)
S400 (approx. 400Mbps)

The baud rate is listed under "Specifications" in the instruction manual of each equipment. It is also indicated near the i.LINK jack on some equipment.
The maximum baud rate of equipment on which it is not indicated such as this unit is "S100".
When units are connected to equipment having a different maximum baud rate, the baud rate sometimes differs from the indicated baud rate.

* What is "Mbps"?

Mbps stands for megabits per second, or the amount of data that can be sent or received in one second. For example, a baud rate of 100Mbps means that 100 megabits of data can be sent in one second.

i.LINK Functions on this unit

For details on how to dub when this unit is connected to other video equipment having DV jacks, see page 74.
This unit can also be connected to other i.LINK (DV) compatible equipment made by SONY (e.g. VAIO series personal computer) other than video equipment .
Before connecting this unit to a personal computer, make sure that application software supported by this unit is already installed on the personal computer.
For details on precautions when connecting this unit, also refer to the instruction manuals for the equipment to be connected.

Required i.LINK Cable

Use the Sony i.LINK 4-pin-to-4-pin cable (during DV dubbing).

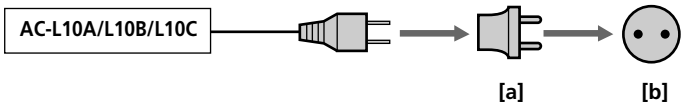
i.LINK and i. are trademarks.

Using your camcorder abroad

Using your camcorder abroad

You can use your camcorder in any country or area with the AC power adaptor supplied with your camcorder within 100 V to 240 V AC, 50/60 Hz.

When charging the battery pack, use a commercially available AC plug adaptor **[a]**, if necessary, depending on the design of the wall outlet **[b]**.



Your camcorder is an NTSC system based camcorder. If you want to view the playback picture on a TV, it must be an NTSC system based TV with Video/Audio input jack. The following shows TV color systems used overseas.

NTSC system
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Guyana, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system
Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Hungary, Italy, Kuwait, Malaysia, New Zealand, Norway, Poland, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, United Kingdom, etc.

PAL-M system
Brazil

PAL-N system
Argentina, Paraguay, Uruguay

SECAM system
Bulgaria, France, Guiana, Iran, Iraq, Monaco, Russia, Ukraine, etc.

Simple setting of clock by time difference

You can easily set the clock to the local time by setting a time difference. Select WORLD TIME in the menu settings. See page 112 for more information.

Maintenance information and precautions

Moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or your camcorder may not operate correctly. If there is moisture inside your camcorder, the beep sounds and the indicator flashes. When the ⏏ indicator flashes at the same time, the cassette is inserted in your camcorder. If moisture condenses on the lens, the indicator will not appear.

If moisture condensation occurs

None of the functions except cassette ejection will work. Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open. Your camcorder can be used again if the indicator does not appear when the power is turned on again.

Note on moisture condensation

Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a hot place as follows:

– You bring your camcorder from a ski slope into a place warmed up by a heating device.
– You bring your camcorder from an air-conditioned car or room into a hot place outside.
– You use your camcorder after a squall or a shower.
– You use your camcorder in a high temperature and humid place.

How to prevent moisture condensation

When you bring your camcorder from a cold place into a warm place, put your camcorder in a plastic bag and tightly seal it. Remove the bag when the air temperature inside the plastic bag has reached the surrounding temperature (after about 1 hour).

Maintenance information

Cleaning the LCD screen

If fingerprints or dust make the LCD screen dirty, we recommend using a LCD Cleaning Kit (optional) to clean the LCD screen.

Cleaning the video head

To ensure normal recording and clear pictures, clean the video heads.
The video head may be dirty when:

– CCD-TRV107/TRV108/TRV308/TRV408/TRV608

– the ⊗ indicator and "CLEANING CASSETTE" message appear one after another on the screen or the ⊗ indicator flashes on the screen.
– playback pictures contain noise.
– playback pictures are hardly visible.
– playback pictures do not appear.

[a]: Slightly dirty
[b]: Very dirty

– DCR-TRV140

– mosaic-pattern noise appears on the playback picture.
– playback pictures do not move.
– playback pictures are hardly visible.
– playback pictures do not appear.
– the ⊗ indicator and "CLEANING CASSETTE" message appear one after another on the screen.

If the above problem occurs, clean the video heads with the Sony V8-25CLD cleaning cassette (optional). Check the picture and if the above problem persists, repeat cleaning.

Note on video heads

When the playback pictures still contain noise even if you have cleaned the video heads with a cleaning cassette, the video heads may have worn down due to long use. If this is the case, they must be replaced with new heads. Contact your Sony dealer or local authorized Sony service facility.

Charging the built-in rechargeable battery in your camcorder

A built-in rechargeable battery is supplied with your camcorder so as to retain the date and time, etc., regardless of the setting of the POWER switch. The rechargeable battery is always charged as long as you are using your camcorder. The battery, however, will get discharged in about 6 months if you do not use your camcorder at all. Even if the rechargeable battery is not charged, it will not affect the camcorder operation. To retain the date and time, etc., charge the battery if the battery is discharged.

Charging the built-in rechargeable battery:

– Connect your camcorder to the wall outlet using the AC power adaptor supplied with your camcorder, and leave your camcorder with the POWER switch turned off for more than 24 hours.
– Or install the fully charged battery pack in your camcorder, and leave your camcorder with the POWER switch turned off for more than 24 hours.

Precautions

Camcorder operation

- Operate your camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
- For DC or AC operation, use the accessories recommended in these operating instructions.
- If any solid object or liquid get inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful with the lens.
- Keep the POWER switch set to OFF (CHG) when you are not using your camcorder.
- Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.
- Keep your camcorder away from strong magnetic fields or mechanical vibration. Noise may occur on images.
- Do not touch the LCD screen with your fingers or a sharp-pointed object.
- If your camcorder is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.
- While using your camcorder, the back of the LCD screen may heat up. This is not a malfunction.

Built-in light (CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only)

- Do not knock or jolt the built-in light while it is turned on as it may damage the bulb or shorten the life of the bulb.
- Do not leave the built-in light on while it is resting on or against something; it may cause a fire or damage the built-in light.

On handling tapes

Do not insert anything into the small holes on the rear of the cassette. These holes are used to sense the type and thickness of the tape and if the recording tab is in or out.

Camcorder care

- Remove the tape, and periodically turn on the power, operate the CAMERA and VCR*1)/PLAYER*2) sections and play back a tape for about 3 minutes*1)/5 minutes*2) when your camcorder is not to be used for a long time.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into your camcorder. When you use your camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause your camcorder to malfunction, and sometimes this malfunction cannot be repaired.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

Connection to your personal computer (DCR-TRV140 only)

When recording an image processed or edited by your personal computer with the i.LINK cable (DV connecting cable), use a new Hi8 Hi8/Digital8 tape.

AC power adaptor

- Unplug the unit from the wall outlet when you are not using the unit for a long time. To disconnect the power cord, pull it out by the plug. Never pull the power cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the power cord forcibly, or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.
- Prevent metallic objects from coming into contact with the metal parts of the connecting section. If this happens, a short may occur and the unit may be damaged.
- Always keep metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment. AM receivers and video equipment disturb AM reception and video operation.
- The unit becomes warm during use. This is not a malfunction.
- Do not place the unit in locations that are:
  – Extremely hot or cold
  – Dusty or dirty
  – Very humid
  – Vibrating

About care and storage of the lens

- Wipe the surface of the lens with a soft cloth in the following instances:
  – When there are fingerprints on the lens surface.
  – In hot or humid locations.
  – When the lens is used in environments susceptible to salt such as the seaside.
- Store the lens in a well-ventilated location subject to little dirt or dust.

To prevent mold from growing on the lens, periodically perform the above.
We recommend turning on and operating your camcorder at least once per month to keep your camcorder in an optimum state for a long time.

Battery pack

- Use only the specified charger or video equipment for the charging function.
- To prevent an accidental short circuit, do not allow metal objects to come into contact with the battery terminals.
- Keep the battery pack away from fire.
- Never expose the battery pack to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.
- Keep the battery pack dry.
- Do not expose the battery pack to any mechanical shock.
- Do not disassemble nor modify the battery pack.
- Attach the battery pack to the video equipment securely.
- Charging while some capacity remains does not affect the original battery capacity.

Note on dry batteries (CCD-TRV107/TRV408, DCR-TRV140 only)

To avoid possible damage from battery leakage or corrosion, observe the following:
– Be sure to insert the batteries with the + – polarities matched to the + – marks.
– Dry batteries are not rechargeable.
– Do not use a combination of new and old batteries.
– Do not use different types of batteries.
– Current drains from batteries when you are not using them for a long time.
– Do not use leaking batteries.

If batteries are leaking

- Wipe off the liquid in the battery compartment carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid get into your eyes, wash your eyes with a lot of water and then consult a doctor.

If any problem occurs, unplug your camcorder and contact your nearest Sony dealer.

Specifications

Video camera recorder

System

Video recording system
CCD-TRV107/TRV108/TRV308/TRV408/TRV608:
2 rotary heads
Helical scanning
FM system
DCR-TRV140:
2 rotary heads
Helical scanning system
Audio recording system
CCD-TRV107/TRV108/TRV308/TRV408/TRV608:
Rotary heads, FM system
DCR-TRV140:
Rotary heads, PCM system
Quantization (DCR-TRV140 only):
12bits (Fs 32 kHz, stereo 1, stereo 2), 16bits (Fs 48 kHz, stereo)
Video signal
NTSC color, EIA standards
Usable cassette
CCD-TRV107/TRV108/TRV308/TRV408/TRV608:
8mm video format cassette
Hi8 or standard 8
DCR-TRV140:
Hi8/Digital8 video cassette
Recording/playback time (using 120 min. Hi8/Digital8 video cassette)
CCD-TRV107/TRV108/TRV308/TRV408/TRV608:
SP mode: 2 hours
LP mode: 4 hours
DCR-TRV140:
SP mode: 1 hour
LP mode: 1 hour and 30 minutes
Fastforward/rewind time (using 120 min. Hi8/Digital8 video cassette)
Approx. 5 min.
Viewfinder
Electric Viewfinder (monochrome)
Image device
CCD-TRV107/TRV108:
3.0 mm (1/6 type) CCD (Charge Coupled Device)
Approx. 270 000 pixels
(Effective: Approx. 250 000 pixels)
CCD-TRV308/TRV408/TRV608:
4.5 mm (1/4 type) CCD (Charge Coupled Device)
Approx. 320 000 pixels
(Effective: Approx. 200 000 pixels)
DCR-TRV140:
4.5 mm (1/4 type) CCD (Charge Coupled Device)
Approx. 460 000 pixels
(Effective: Approx. 290 000 pixels)
Lens
Combined power zoom lens
Filter diameter 37 mm (1 7/16 in.)
CCD-TRV107:
20× (Optical), 450× (Digital)
CCD-TRV108/TRV308:
20× (Optical), 460× (Digital)
CCD-TRV408/TRV608, DCR-TRV140:
20× (Optical), 560× (Digital)
Focal length
3.6 – 72 mm (5/32 - 2 7/8 in.)
When converted to a 35 mm still camera
CCD-TRV107/TRV108:
51.8 – 1 036 mm (2 - 40 6/8 in.)
CCD-TRV308/TRV408/TRV608, DCR-TRV140:
41 – 820 mm (1 5/8 - 32 3/8 in.)
Color temperature
Auto
Minimum illumination
CCD-TRV308/TRV408/TRV608:
0.4 lx (lux) (F 1.4)
CCD-TRV107/TRV108, DCR-TRV140:
1 lx (lux) (F 1.4)
0 lx (lux) (in the NightShot mode)*
* Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/output connectors

S video output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced
Chrominance signal: 0.286 Vp-p, 75 Ω (ohms), unbalanced
Audio/Video output
AV MINIJACK, 1 Vp-p, 75 Ω (ohms), unbalanced, sync negative
327 mV, (at output impedance more than 47 kΩ (kiloohms))
Output impedance with less than 2.2 kΩ (kiloohms)
CCD-TRV107/TRV108/TRV308/TRV408/TRV608:
Monaural minijack (ø 3.5 mm)
DCR-TRV140:
Stereo minijack (ø 3.5 mm)
RFU DC OUT (CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only)
Mini-minijack (ø 2.5 mm), DC5V
DV input/output (DCR-TRV140 only)
4-pin connector
USB jack (CCD-TRV608, DCR-TRV140 only)
mini-B

LCD screen

Picture
CCD-TRV107/TRV108/TRV308/TRV408, DCR-TRV140:
6.2 cm (2.5 type)
50.3 × 37.4 mm (2 × 1 1/2 in.)
CCD-TRV608:
7.5 cm (3 type)
61.0 × 43.8 mm (2 1/2 × 1 3/4 in.)
Total dot number
CCD-TRV107/TRV108/TRV308/TRV408, DCR-TRV140:
61 600 (280 × 220)
CCD-TRV608:
123 200 (560 × 220)

General

Power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)
Average power consumption (when using the battery pack)
During camera recording using LCD
CCD-TRV107/TRV108/TRV308/TRV408:
2.6 W
CCD-TRV608:
3.1 W
DCR-TRV140:
3.5 W
Viewfinder
CCD-TRV107/TRV108/TRV308/TRV408/TRV608:
1.9 W
DCR-TRV140:
2.8 W
Operating temperature
0 °C to 40 °C (32 °F to 104 °F)
Recommended charging temperature
10 °C to 30 °C (50 °F to 86 °F)
Storage temperature
–20 °C to +60 °C (–4 °F to +140 °F)
Dimensions (Approx.)
90 × 102 × 197 mm
(3 5/8 × 4 1/8 × 7 7/8 in.)
(w/h/d)

Mass (approx.)
CCD-TRV107/TRV108/TRV308/TRV408:
850 g (1 lb 14 oz)
DCR-TRV140:
860 g (1 lb 14 oz)
CCD-TRV608:
870 g (1 lb 14 oz)
main unit only
CCD-TRV107/TRV108/TRV308:
990 g (2 lb 3 oz)
CCD-TRV408/TRV608, DCR-TRV140:
1.0 kg (2 lb 3 oz)
including the battery pack NP-FM30, Hi8/Digital8 cassette, lens cap, and shoulder strap
Supplied accessories
See page 5.

AC power adaptor

Power requirements
100 - 240 V AC, 50/60 Hz
Power consumption
23 W
Output voltage
DC OUT: 8.4 V, 1.5 A in the operating mode
Operating temperature
0 °C to 40 °C (32 °F to 104 °F)
Storage temperature
–20 °C to +60 °C (–4 °F to +140 °F)
Dimensions (approx.)
125 × 39 × 62 mm
(5 × 1 9/16 × 2 1/2 in.)
(w/h/d)
excluding projecting parts
Mass (approx.)
280 g (9.8 oz)
excluding power cord

Battery pack

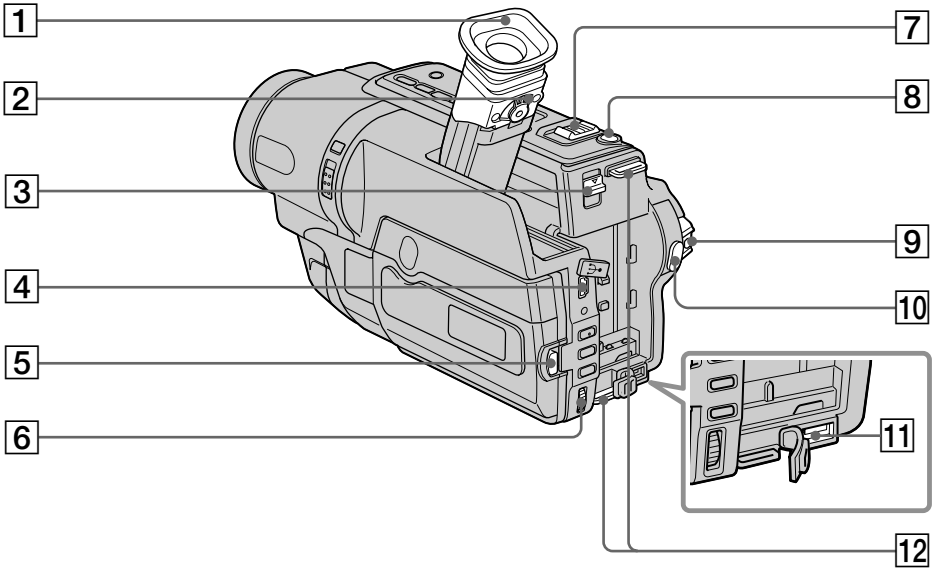
Maximum output voltage
DC 8.4 V
Output voltage
DC 7.2 V
Capacity
5.0 Wh (700 mAh)
Operating temperature
0 °C to 40 °C (32 °F to 104 °F)
Dimensions (approx.)
38.2 × 20.5 × 55.6 mm
(1 9/16 × 13/16 × 2 1/4 in.)
(w/h/d)
Mass (approx.)
65 g (2.3 oz)

Type
Lithium ion

Design and specifications are subject to change without notice.

Identifying the parts and controls

Camcorder



1 **Eyecup**

2 **Viewfinder lens adjustment lever** (p. 27)

3 **▼ BATT release lever** (p. 13)

4 **USB jack** (p. 99)*1)

5 **OPEN button** (p. 23)

6 **SEL/PUSH EXEC dial** (p. 19, 105)

7 **Power zoom lever** (p. 26)

8 **PHOTO button** (p. 40)*2)

9 **POWER switch** (p. 14)

10 **START/STOP button** (p. 23)

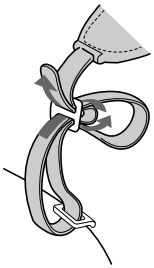
11 **DC IN jack** (p. 14)

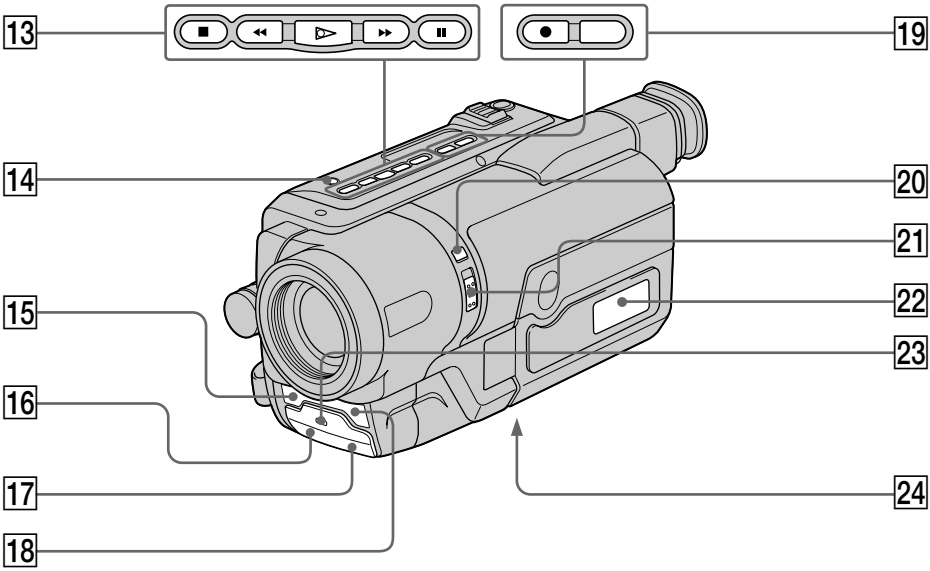
12 **Hooks for shoulder strap** (p. 136)

*1) CCD-TRV608, DCR-TRV140 only
*2) DCR-TRV140 only

Attaching the shoulder strap

Attach the shoulder strap supplied with your camcorder to the hooks for the shoulder strap.





13 **Video control buttons** (p. 33, 36)
- ■ STOP (stop)
- ◄◄ REW (rewind)
- ► PLAY (playback)*
- ►► FF (fastforward)
- ❚❚ PAUSE (pause)

14 **LIGHT button** (p. 61)*1)

15 **Microphone** (R)*2)

16 **Infrared rays emitter** (p. 29, 79, 85)

17 **Remote sensor** (p. 141)*3)

18 **Microphone** (L)

19 ● **REC buttons** (recording)*2)

20 **COLOR SLOW SHUTTER** (p. 29)*2)/ **SUPER NIGHTSHOT** (p. 29)*2) **button**

21 **NIGHTSHOT switch** (p. 29)

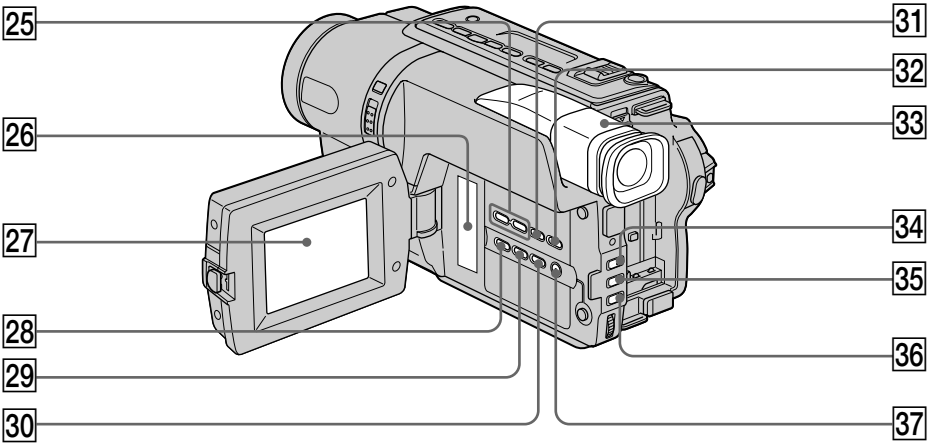
22 **Display window** (p. 142)

23 **Camera recording lamp** (p. 23)

24 **Tripod receptacle** (base)
Make sure that the length of the tripod screw is less than 5.5 mm (7/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage your camcorder.

* This button has a tactile dot.

*1) CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only
*2) DCR-TRV140 only
*3) CCD-TRV107/TRV408, DCR-TRV140 only



25 **VOLUME +*/– buttons** (p. 33)

26 **Speaker**

27 **LCD screen** (p. 24)

28 **EXPOSURE button** (p. 52)

29 **TITLE button** (p. 57, 59)

30 **PB ZOOM button** (p. 66)*1)
EASY DUBBING button (p. 75)*2)

31 **DISPLAY button** (p. 34)

32 **END SEARCH button** (p. 32)

33 **Viewfinder** (p. 27)

34 **FADER button*** (p. 44)

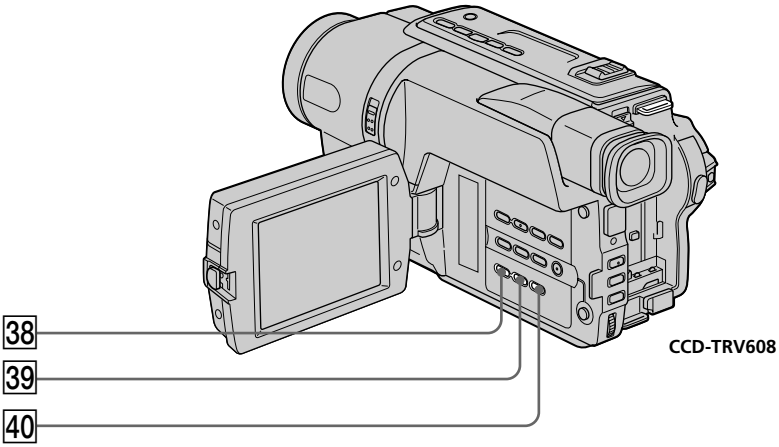
35 **BACK LIGHT button** (p. 29)

36 **FOCUS button** (p. 53)

37 **MENU button*** (p. 19, 105)

* This button has a tactile dot.

*1) DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only



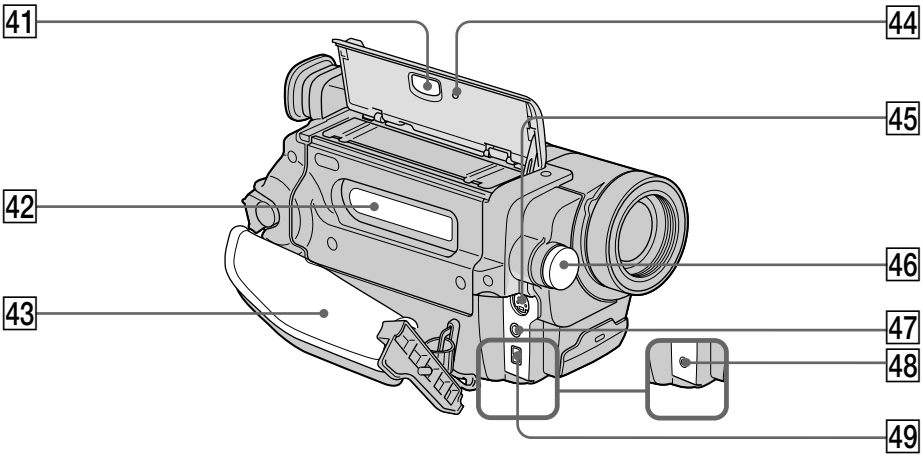
38 **DATE button** (p. 31)*1)

39 **TIME button*** (p. 31)*1)

40 **COUNTER RESET button** (p. 24)*1)

* This button has a tactile dot.

*1) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only



41 ⏏ **EJECT button** (p. 21)

42 **Cassette compartment** (p. 21)

43 **Grip strap**

44 **RESET button** (p. 117)

45 **S VIDEO OUT jack** (p. 38, 72, 73)

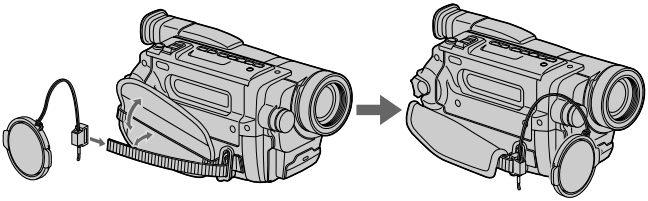
46 **Built-in light** (p. 61)*1)

47 **A/V OUT jack** (p. 38, 72, 73)

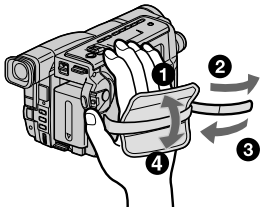
48 **RFU DC OUT (RFU adaptor PC output) jack** (p. 39)*2)

49 **DV IN/OUT jack** (p. 74, 93)*3)
The DV IN/OUT jack is i.LINK compatible.

Attaching the lens cap
Attach the lens cap to the grip strap as illustrated.



Fastening the grip strap
Fasten the grip strap firmly.

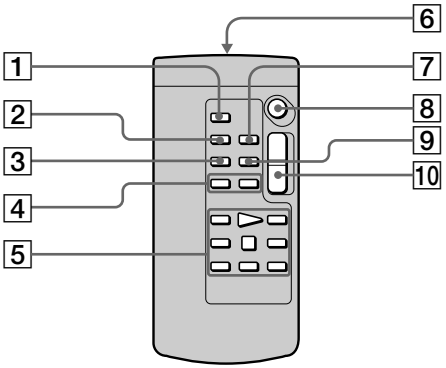


*1) CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only
*2) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only
*3) DCR-TRV140 only

Remote Commander

The buttons that share the same name on the Remote Commander and your camcorder function identically.

DCR-TRV140



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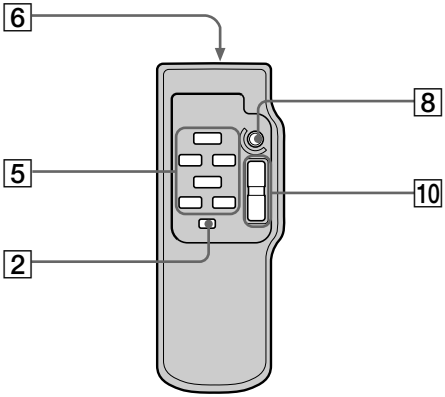
CCD-TRV107/TRV408



RMT-708

1 **PHOTO button** (p. 40)

2 **DISPLAY button** (p. 34)

3 **SEARCH MODE button** (p. 68, 70)

4 **I◄◄/►►I buttons** (p. 68, 70)

5 **Tape transport buttons** (p. 36)

6 **Transmitter**
Point toward the remote sensor to control the camcorder after turning on the camcorder.

7 **ZERO SET MEMORY button** (p. 67, 96)

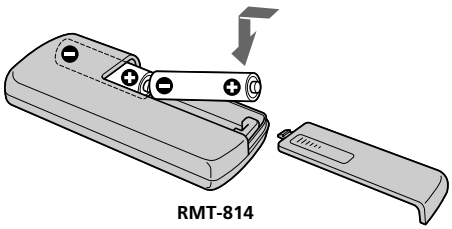
8 **START/STOP button** (p. 23)

9 **DATA CODE button** (p. 34)

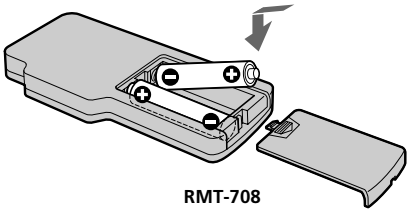
10 **Power zoom button** (p. 26)

To prepare the Remote Commander

Insert 2 size AA (R6) batteries by matching the + and – polarities on the batteries to the + – marks inside the battery compartment.



RMT-814



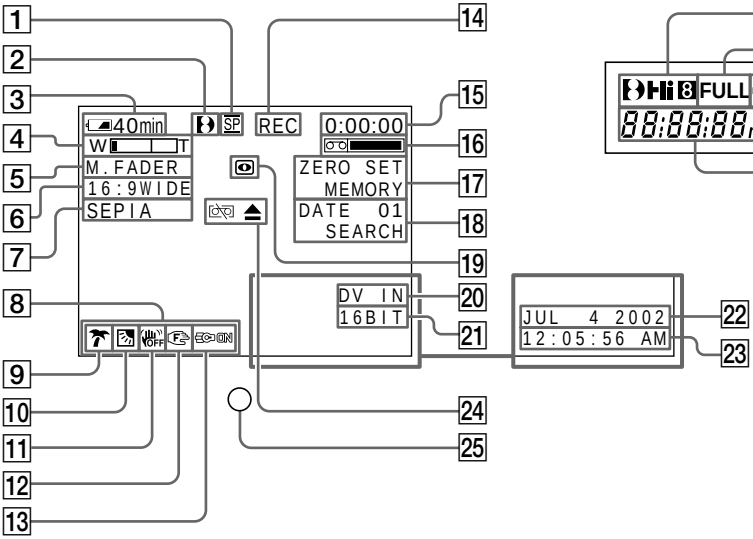
RMT-708

Notes on the Remote Commander

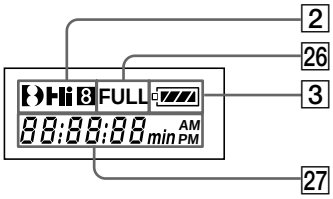
- Point the remote sensor away from strong light sources such as direct sunlight or overhead lighting. Otherwise, the Remote Commander may not function properly.
- Your camcorder works in the commander mode VTR 2. The commander modes 1, 2 and 3 are used to distinguish your camcorder from other Sony VCRs to avoid unintentional operations. If you use another Sony VCR in the commander mode VTR 2, we recommend changing the commander mode or covering the sensor of the VCR with black paper.

Operation indicators

LCD screen and Viewfinder



Display window



1 **Recording mode indicator** (p.23)/ **Mirror mode indicator** (p. 24)

2 **Format indicator** (p. 28)*1)

3 **Remaining battery time indicator** (p. 28)

4 **Zoom indicator** (p. 26)/ **Exposure indicator** (p. 52)

5 **Fader indicator** (p. 44)/ **Digital effect indicator** (p. 47, 65)*1)

6 **Wide mode indicator** (p. 41)

7 **Picture effect indicator** (p. 46, 64)

8 **Volume indicator** (p. 33)/ **Data code indicator** (p. 34)*1)

9 **PROGRAM AE indicator** (p. 50)

10 **Backlight indicator** (p. 29)

11 **SteadyShot off indicator** (p. 107)*2)

12 **Manual focusing indicator** (p. 53)

13 **Built-in light indicator** (p. 61)*3)

14 **STBY/REC indicator** (p. 23)/ **Video control mode indicator** (p. 36)

15 **Tape counter indicator** (p. 28)/ **Time code indicator**(p. 28)*1)/ **Self-diagnosis display indicator** (p. 118)/ **Tape photo recording indicator** (p. 28)*1)

16 **Remaining tape indicator** (p. 28)

17 **ZERO SET MEMORY indicator** (p. 67, 96)*1)

18 **Search mode indicator** (p. 32, 68, 70)*1)/ **END SEARCH indicator** (p. 32)*4)

19 **NIGHTSHOT indicator** (p. 30)/ **SUPER NIGHTSHOT/COLOR SLOW SHUTTER indicator** (p. 30)*1)

20 **DV IN indicator** (p. 94)*1)

21 **Audio mode indicator** (p. 109)*1)

22 **AUTO DATE indicator** (p. 20)*4)/ **Date indicator** (p. 20, 31)*4)

23 **Time indicator** (p. 19, 31)*4)

24 **Warning indicators** (p. 119)

25 **Camera recording lamp** (p. 23)
This indicator appears in the viewfinder only.

26 **FULL charge indicator** (p. 14)

27 **Tape counter indicator** (p. 28)**/**
DATE or TIME indicator (p. 20, 31)*4)**/**
Time code indicator (p. 28)*1)**/**
Self-diagnosis display indicator (p. 118)

*1) DCR-TRV140 only
*2) CCD-TRV308/TRV408/TRV608, DCR-TRV140 only
*3) CCD-TRV107/TRV308/TRV408/TRV608, DCR-TRV140 only
*4) CCD-TRV107/TRV108/TRV308/TRV408/TRV608 only

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